

# STIC Search Report

## EIC 1700

STIC Database Tracking Number: 215545

TO: Dawn Garrett  
Location: REM 10C79  
Art Unit : 1774  
February 20, 2007

Case Serial Number: 10/786811

From: Mei Huang  
Location: EIC 1700  
REMSSEN 4B28  
Phone: 571/272-3952  
Mei.huang@uspto.gov

### Search Notes

Examiner Garrett,

Please feel free to contact me if you have any questions or if you would like to refine the search query,

Thank you for using STIC services!

Mei Huang



## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 2/12/2007  
 Art Unit: 1774 Phone Number: 301-523 Serial Number: 10/786,811  
 Mail Box and Bldg/Room Location: REM 10C 74 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: (see Bib Data Sheet)  
 Inventors (please provide full names): \_\_\_\_\_  
 \_\_\_\_\_  
 Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

SCIENTIFIC REFERENCE BR  
 Sci & Tech Inf. Cntr

FEB 13 RECD

Pat. & T.M. Office

Please search:

Formula III (claim 3)

Wherein Z is NR' in the formula I  
portion of formula III

Thank you.

## STAFF USE ONLY

Searcher: <u>MQH</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #: _____	NA Sequence (#) _____	STN <input checked="" type="checkbox"/> _____
Searcher Location: _____	AA Sequence (#) _____	Dialog _____
Date Searcher Picked Up: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Completed: <u>2/20/07</u>	Bibliographic _____	Dr. Link _____
Searcher Prep & Review Time: _____	Litigation _____	Lexis/Nexis _____
Clerical Prep Time: _____	Fulltext _____	Sequence Systems _____
Online Time: _____	Patent Family _____	WWW/Internet _____
	Other _____	Other (specify) _____

=> fil reg

FILE 'REGISTRY' ENTERED AT 14:36:49 ON 20 FEB 2007

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(FILE 'HOME' ENTERED AT 13:24:08 ON 20 FEB 2007)

FILE 'HCAPLUS' ENTERED AT 13:24:18 ON 20 FEB 2007

L1 1 SEA US2005186445/PN

FILE 'REGISTRY' ENTERED AT 13:25:18 ON 20 FEB 2007

L2 29 SEA (1074-24-4/BI OR 13731-82-3/BI OR 13815-90-2/BI OR

L3 STR

L4 SCR 2043

L5 50 SEA SSS SAM L3 AND L4

L6 39814 SEA SSS FUL L3 AND L4

SAV L6 TEMP GAR811/A

L7 STR L3

L8 50 SEA SUB=L6 SSS SAM L7

L9 STR L7

L10 20 SEA SUB=L6 SSS SAM L9

L11 441 SEA SUB=L6 SSS FUL L9

SAV L11 GAR811S1/A

L12 7 SEA L2 AND L6

L13 1 SEA L2 AND L11

L14 6 SEA L12 NOT L13

L15 198 SEA L11 AND ?AZOLE?/CNS

FILE 'HCAPLUS' ENTERED AT 14:25:15 ON 20 FEB 2007

L16 72 SEA L15 ~~hits on the Formula III~~

L17 1 SEA L13

L18 QUE ELECTROLUM!N? OR ORGANOLUM!N? OR (ELECTRO OR ORGANO  
OR ORG#) (2A) LUM!N? OR LIGHT (2A) (EMISSION? OR EMIT?) OR  
EL OR E(W)L OR OLED OR L(W)E(W)D OR LED/IT

L19 8 SEA L18 AND L16

L20 15 SEA L15(L)DEV/RL

L21 8 SEA L15(L)L18

L22 1 SEA L15(L)AZOLE#

L23 (8) SEA L19 OR L21 OR L22 → hits on Formula III + electroluminescent

L24 (8) SEA L20 NOT L23 → hits on Formula III linked to Device or azole p3-19

L25 56 SEA L16 NOT (L23 OR L24)

L26 QUE 73/SC, SX

L27 QUE (74 OR 76)/SC, SX

L28 3 SEA L25 AND L26

L29 12 SEA L25 AND L27

L30 (15) SEA L28 OR L29 → hits on Formula III used in the field of

L31 (41) SEA L25 NOT L30

SAV L31 TEMP GAR811A/A

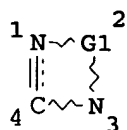
rest of the

formula III compounds, let me

know if you'd like to display them.

=> d l15 que stat

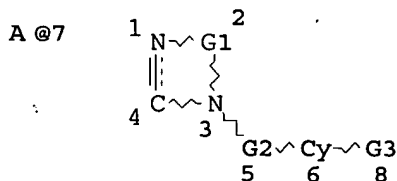
L3 STR



REP G1=(1-4) A  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE  
 L4 SCR 2043  
 L6 39814 SEA FILE=REGISTRY SSS FUL L3 AND L4  
 L9 STR



Ak @9 Cy @10

X- conjugated

REP G1=(1-4) A  
 REP G2=(0-20) 7  
 VAR G3=9/10  
 NODE ATTRIBUTES:  
 NSPEC IS RC AT 7  
 DEFAULT MLEVEL IS ATOM  
 GGCAT IS UNS AT 6  
 GGCAT IS UNS AT 9  
 GGCAT IS UNS AT 10  
 DEFAULT ECLEVEL IS LIMITED  
 ECOUNT IS M6 C AT 6

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE  
 L11 441 SEA FILE=REGISTRY SUB=L6 SSS FUL L9  
 L15 198 SEA FILE=REGISTRY L11 AND ?AZOLE?/CNS

=> fil hcap  
 FILE 'HCAPLUS' ENTERED AT 14:36:59 ON 20 FEB 2007  
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=> d l23 ibib abs fhitr hitind 1-8

L23 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:586534 HCAPLUS

DOCUMENT NUMBER: 145:167753

TITLE: Conjugated polymer electroluminescent material with functional side alkylene chain terminated by guanine group, preparation and application thereof

INVENTOR(S): Huang, Wei; Fan, Quli; Qian, Yinhu

PATENT ASSIGNEE(S): Fudan University, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 20 pp.  
CODEN: CNXXEV

DOCUMENT TYPE: Patent

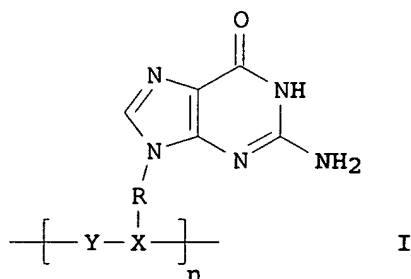
LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1687066	A	20051026	CN 2005-10024610	20050324
PRIORITY APPLN. INFO.:				20050324
				20050324

GI



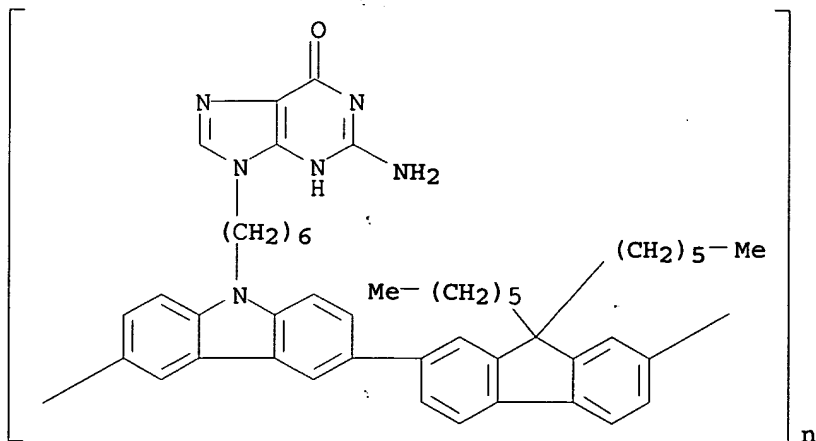
AB The title polymer material can be represented by a general formula I, wherein R = linear alkylene, Y is one of 9,9-dialkyl-9H-fluoren-2,7-diyl, 1,4-dialkyl-2,5-phenylene, 3,4-dialkylthiophen-2,5-diyl, 9-alkylcarbazole-2,7-diyl, 9-alkylcarbazole-3,6-diyl, and 5,6-dialkylbenzo[c][1,2,5]thiadiazol-4,7-diyl, while alkyls being linear or branched with any length; and X is 1-R-4-alkyl/alkoxy-2,5-phenylene, 1-RO-4-alkyl/alkoxy-2,5-phenylene, 9-R-carbazol-2,7-diyl, and 9-R-carbazol-3,6-diyl, while alkyl and alkoxy being of any length. The title preparation includes Suzuki coupling corresponding starting materials of equal moles in anhydrous toluene or THF in the presence of base and triphenylphosphine palladium catalyst; and separating product out. The polymer can be used as light-emitting layer material of conjugated polymer solid light-emitting cell.

IT 899817-94-8P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(synthesis of conjugated fluorene or carbazole polymers bearing guanine groups and useful for **electroluminescent** material)

RN 899817-94-8 HCAPLUS

CN Poly[[9-[6-(2-amino-1,6-dihydro-6-oxo-9H-purin-9-yl)hexyl]-9H-carbazole-3,6-diyl](9,9-dihexyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)



IC ICM C07D473-32

ICS C08G083-00; C09K011-06

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 52, 73

ST guanine group bearing fluorene carbazole polymer synthesis  
**electroluminescent** material

IT Polymers, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(conjugated; synthesis of conjugated fluorene or carbazole polymers bearing guanine groups and useful for **electroluminescent** material)

IT Luminescent substances

(**electroluminescent**; synthesis of conjugated fluorene or carbazole polymers bearing guanine groups and useful for **electroluminescent** material)

IT **Electroluminescent** devices

Suzuki coupling reaction

(synthesis of conjugated fluorene or carbazole polymers bearing guanine groups and useful for **electroluminescent** material)

IT 12628-74-9, (Triphenylphosphine)palladium

RL: CAT (Catalyst use); USES (Uses)

(synthesis of conjugated fluorene or carbazole polymers bearing guanine groups and useful for **electroluminescent** material)

IT 899817-91-5P 899817-92-6P 899817-93-7P 899817-94-8P

899817-95-9P 899817-96-0P 899817-97-1P

899817-98-2P 899817-99-3P 899818-00-9P

899818-01-0P 899818-02-1P 899818-03-2P

899818-04-3P 899818-05-4P 899818-06-5P

899818-07-6P 899818-08-7P 899818-09-8P 899818-10-1P  
 899818-11-2P 899818-12-3P 899818-13-4P 899818-14-5P  
 899818-15-6P 899818-16-7P 899818-17-8P  
 899818-18-9P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (synthesis of conjugated fluorene or carbazole polymers bearing guanine groups and useful for electroluminescent material)

IT 250597-29-6P 870766-37-3P 875432-39-6P 899817-85-7P  
 899817-86-8P 899817-87-9P 899817-88-0P 899817-89-1P  
 899817-90-4P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (synthesis of conjugated fluorene or carbazole polymers bearing guanine groups and useful for electroluminescent material)

IT 86-74-8, Carbazole 111-25-1, 1-Bromohexane 111-83-1,  
 1-Bromooctane 150-76-5, 4-Methoxyphenol 504-63-2,  
 1,3-Propanediol 629-03-8, 1,6-Dibromohexane 6825-20-3,  
 3,6-Dibromocarbazole 16433-88-8, 2,7-Dibromofluorene 18908-66-2,  
 1-Bromo-2-ethylhexane 83470-68-2 136630-39-2,  
 2,7-Dibromocarbazole

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (synthesis of conjugated fluorene or carbazole polymers bearing guanine groups and useful for electroluminescent material)

IT 7439-95-4, Magnesium, reactions 7553-56-2, Iodine, reactions

RL: RGT (Reagent); RACT (Reactant or reagent)  
 (synthesis of conjugated fluorene or carbazole polymers bearing guanine groups and useful for electroluminescent material)

L23 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:904179 HCAPLUS

DOCUMENT NUMBER: 143:256780

TITLE: Electroluminescent devices including conjugated polymers containing an azole structure

INVENTOR(S): Zheng, Shiyang; Vaeth, Kathleen M.

PATENT ASSIGNEE(S): Eastman Kodak Company, USA

SOURCE: U.S. Pat. Appl. Publ., 46 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005186445	A1	20050825	US 2004-786811	20040225

PRIORITY APPLN. INFO.: US 2004-786811

20040225

AB Electroluminescent devices comprising a spaced-apart anode and cathode and an organic layer disposed between the anode and the

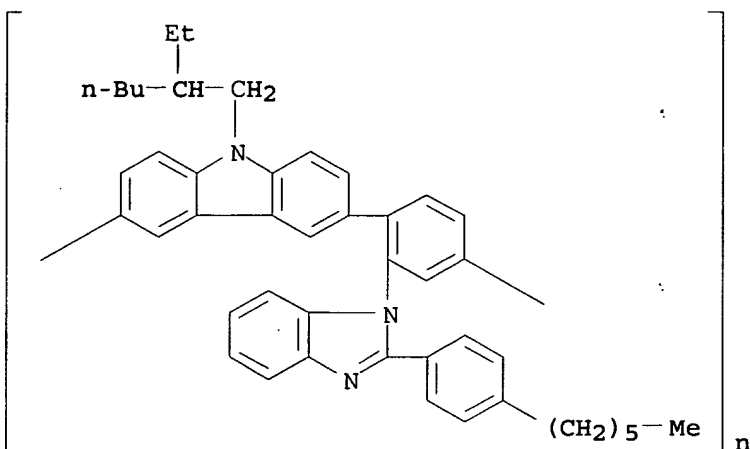
cathode are described in which the organic layer includes a polymer having a azole structure. The polymers may be doped with  $\geq 1$  fluorescent dyes, phosphorescent dopants, or other light emitting material. Methods of fabricating the devices are also described which entail forming an organic layer including the polymers between the anode and the cathode.

IT 863192-63-6

RL: DEV (Device component use); USES (Uses)  
(electroluminescent devices using polymers with  
azole structures and their fabrication)

RN 863192-63-6 HCAPLUS

CN Poly[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl][2-[2-(4-hexylphenyl)-1H-benzimidazol-1-yl]-1,4-phenylene]] (9CI) (CA INDEX NAME)



IC ICM H05B033-12

INCL 428690000; 428917000; 313504000; 313506000; 257040000; 427066000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 76

ST electroluminescent device azole polymer

IT Luminescent substances

Semiconductor device fabrication

(electroluminescent devices using polymers with azole  
structures and their fabrication)

IT Luminescent substances

(electroluminescent; electroluminescent  
devices using polymers with azole structures and their  
fabrication)

IT Electroluminescent devices

(organic; electroluminescent devices using polymers with  
azole structures and their fabrication)

IT 863192-57-8 863192-58-9 863192-59-0 863192-60-3 863192-61-4  
863192-62-5 863192-63-6

RL: DEV (Device component use); USES (Uses)  
(electroluminescent devices using polymers with  
azole structures and their fabrication)

IT 94928-86-6, Tris(2-phenylpyridine)iridium

RL: DEV (Device component use); MOA (Modifier or additive use); USES  
(Uses)

(electroluminescent devices using polymers with azole  
structures and their fabrication)



IT 88-74-4, 2-Nitroaniline 610-71-9, 2,5-Dibromobenzoic acid  
 1074-24-4, 2,5-Dibromo-p-xylene 1435-52-5 1493-27-2,  
 2-Fluoronitrobenzene 7719-09-7, Thionyl chloride 33228-45-4,  
 4-Hexylaniline 50606-95-6, 4-Hexylbenzoyl chloride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (electroluminescent devices using polymers with azole  
 structures and their fabrication)

IT 13731-82-3P 13815-90-2P 59615-13-3P 863192-45-4P  
 863192-46-5P 863192-47-6P 863192-49-8P 863192-51-2P  
 863192-52-3P 863192-53-4P 863192-54-5P 863192-55-6P  
 863192-56-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (electroluminescent devices using polymers with azole  
 structures and their fabrication)

L23 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:51035 HCAPLUS

DOCUMENT NUMBER: 142:165272

TITLE: Block copolymers for organic  
 electroluminescent (EL) device  
 and its display, illumination, and light source  
 INVENTOR(S): Kawakami, Akira; Kita, Hiroshi; Ogino, Kenji  
 PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 56 pp.  
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

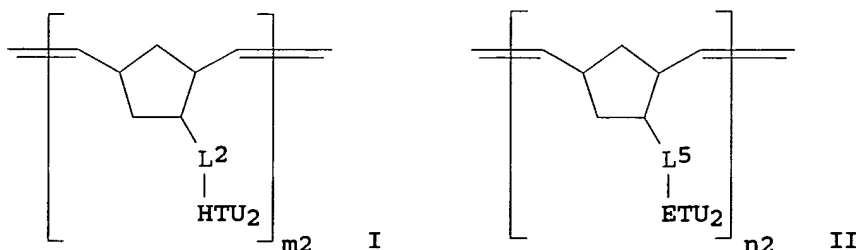
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005015508	A	20050120	JP 2003-177859	20030623
PRIORITY APPLN. INFO.:				20030623

GI



AB The block copolymers comprise (A) block components of repeating units having hole-transporting units (HTU), (B) block components of repeating units having electron-transporting units (ETU), and (C) repeating units having phosphorescent units. Preferably, the block

A is represented by the general formula  $[\text{CHR}_1\text{CR}_2(\text{L}_1\text{HTU}_1)]_{m1}$ , I, or  $[\text{O}(\text{CR}_3\text{R}_4)\text{L}_1\text{CR}_5(\text{L}_3\text{HTU}_3)]_{m3}$  (HTU1-HTU3 = hole-transporting moiety;  $\text{R}_1\text{-R}_5 = \text{H}$ , substituent;  $\text{L}_1\text{-L}_3 = \text{linking group, bond}$ ;  $m \geq 3$  integer;  $l_1 = 1, 2, 3$ ) and the block B is represented by the general formula  $[\text{CHR}_6\text{CR}_7(\text{L}_4\text{ETU}_1)]_{n1}$ , II, or  $[\text{O}(\text{CR}_8\text{R}_9)\text{L}_2\text{CR}_{10}(\text{L}_6\text{ETU}_3)]_{n3}$  (ETU1-ETU3 = electron-transporting moiety;  $\text{R}_6\text{-R}_{10} = \text{H}$ , substituent;  $\text{L}_4\text{-L}_6 = \text{linking group, bond}$ ;  $n_1\text{-}n_3 \geq 3$  integer;  $l_2 = 1, 2, 3$ ). Preferably, the HTU comprise triphenylamine units and the ETU have F or F-containing substituents. Preferably, the surface free energy of the monomer forming HTU-containing repeating units is larger than that of the monomers of the ETU-containing repeating units and these monomers are incompatible to each other. Preferably, the block copolymers are prepared by atom.-transfer radical polymerization. Preferably,  $\geq 1$  of the block A contains hydrolyzable silyl groups, more preferably, trialkoxysilyl groups, and also contains dialkylamino groups. The organic EL device contains the A-B-C block copolymers in  $\geq 1$  of the organic layers provided between a cathode and an anode. In another alternative, the organic EL device contains A-B block copolymers and phosphorescent compds. The organic EL device has high emission efficiency, long service life, and high productivity.

IT 828940-06-3P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(block copolymers for organic EL device for display, illumination, and light source)

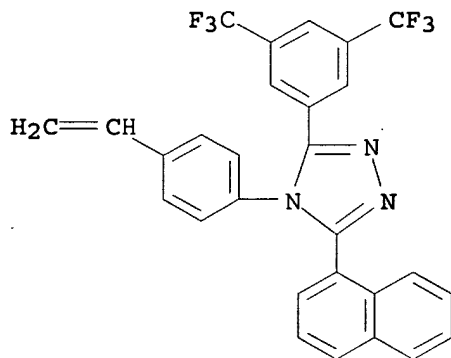
RN 828940-06-3 HCAPLUS

CN 9H-Carbazole, 9-(4-ethenylphenyl)-, polymer with  
3-[3,5-bis(trifluoromethyl)phenyl]-4-(4-ethenylphenyl)-5-(1-naphthalenyl)-4H-1,2,4-triazole, block (9CI) (CA INDEX NAME)

CM 1

CRN 828940-05-2

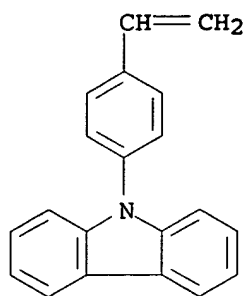
CMF C28 H17 F6 N3



CM 2

CRN 52913-19-6

CMF C20 H15 N



IC ICM C08F297-00  
ICS C08G065-02; C09K011-06; H05B033-14; H05B033-22  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 38, 74  
ST hole transporting unit block copolymer **electroluminescent** device; electron transporting unit block copolymer **electroluminescent** device; phosphorescent unit block copolymer **electroluminescent** device; light source org **electroluminescent** device; illumination org **electroluminescent** device; org **electroluminescent** display block copolymer  
IT Light sources  
(block copolymers for organic **EL** device for display, illumination, and light source)  
IT **Electroluminescent** devices  
(displays; block copolymers for organic **EL** device for display, illumination, and light source)  
IT Luminescent screens  
(**electroluminescent**; block copolymers for organic **EL** device for display, illumination, and light source)  
IT Light  
(fluorescent; block copolymers for organic **EL** device for display, illumination, and light source)  
IT **Electroluminescent** devices  
(organic; block copolymers for organic **EL** device for display, illumination, and light source)  
IT 828940-06-3P 830318-16-6P 830318-18-8P  
830318-20-2P 830318-21-3P 830318-22-4P  
830318-25-7P 830318-26-8P 830318-27-9P  
830318-28-0P 830318-29-1P  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(block copolymers for organic **EL** device for display, illumination, and light source)  
IT 94928-86-6 344796-22-1 344796-24-3 376367-93-0  
RL: DEV (Device component use); USES (Uses)  
(phosphor; block copolymers for organic **EL** device for display, illumination, and light source)

L23 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:530380 HCAPLUS

DOCUMENT NUMBER: 141:96344

TITLE: Organic **electroluminescent** device for displays and illumination source and its production method

INVENTOR(S): Kita, Hiroshi; Yamada, Taketoshi; Suzurizato,

PATENT ASSIGNEE(S): Yoshiyuki; Ueda, Noriko  
 SOURCE: Konica Minolta Holdings Inc., Japan  
 Jpn. Kokai Tokkyo Koho, 65 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004185967	A	20040702	JP 2002-351157	20021203
PRIORITY APPLN. INFO.:				20021203
				20021203

AB The invention relates to an organic electroluminescent device comprising a light-emitting layer containing a phosphorescent dopant and a multifunctioning polymer, wherein, at least, the two of functional mol. units selected from a luminescent host unit, a hole transporting unit, and an electron transporting unit constitute the multifunctioning polymer.

IT 714976-16-6

RL: DEV (Device component use); USES (Uses)  
 (organic electroluminescent device having phosphorescent dopant and multifunctioning polymer in light emitting layer)

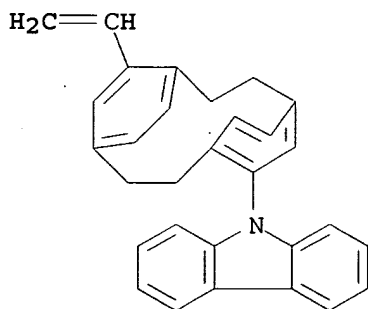
RN 714976-16-6 HCAPLUS

CN 9H-Carbazole, 9-(11-ethenyltricyclo[8.2.2.2<sup>4,7</sup>]hexadeca-4,6,10,12,13,15-hexaen-5-yl)-, polymer with 3,5-bis(2,5-dimethylphenyl)-4-(4-ethenylphenyl)-4H-1,2,4-triazole (9CI) (CA INDEX NAME)

CM 1

CRN 714976-15-5

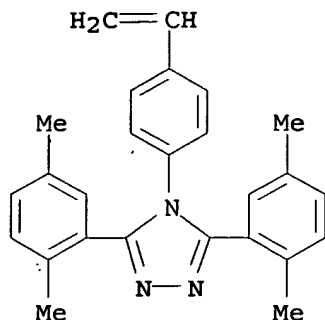
CMF C30 H25 N



CM 2

CRN 714976-14-4

CMF C26 H25 N3



IC ICM H05B033-14  
ICS C08F212-00; C08F220-34; C08F226-12; C08F293-00; C08G081-00;  
C08G085-00; C09K011-06; H05B033-10

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
Properties)  
Section cross-reference(s): 37, 74

ST org **electroluminescent** device phosphoresce multifunction  
polymer

IT **Electroluminescent** devices  
Light sources  
Optical imaging devices  
Phosphorescent substances  
(organic **electroluminescent** device having phosphorescent  
dopant and multifunctioning polymer in **light**  
**emitting** layer)

IT Polyesters, uses  
Polyethers, uses  
Polyurethanes, uses  
RL: DEV (Device component use); USES (Uses)  
(organic **electroluminescent** device having phosphorescent  
dopant and multifunctioning polymer in **light**  
**emitting** layer)

IT 714976-00-8 714976-02-0 714976-05-3 714976-08-6 714976-11-1  
714976-13-3 714976-16-6 714976-18-8  
714976-21-3 714976-25-7 714976-27-9 714976-29-1  
714976-31-5 714976-33-7 714976-35-9  
714976-36-0 714976-38-2  
RL: DEV (Device component use); USES (Uses)  
(organic **electroluminescent** device having phosphorescent  
dopant and multifunctioning polymer in **light**  
**emitting** layer)

IT 94928-86-6 344796-22-1 376367-93-0  
RL: DEV (Device component use); MOA (Modifier or additive use); USES  
(Uses)  
(organic **electroluminescent** device having phosphorescent,  
dopant and multifunctioning polymer in **light**  
**emitting** layer)

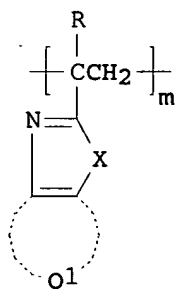
L23 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2000:198224 HCAPLUS  
DOCUMENT NUMBER: 132:243744  
TITLE: Organic **electroluminescent** component  
INVENTOR(S): Okada, Hisashi  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

DOCUMENT TYPE: CODEN: JKXXAF  
 LANGUAGE: Patent  
 FAMILY ACC. NUM. COUNT: 1 Japanese  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000087027	A	20000328	JP 1998-258829	19980911
JP 3791732	B2	20060628	JP 1998-258829	19980911

PRIORITY APPLN. INFO.:

GI



AB The invention refers to an organic **electroluminescent** component comprising the monomer I [Q1 = 5 or 6 membered aromatic ring, X = O, S, N-R1, C-R2(R3) where R1-3 = H, aliphatic hydrocarbon, aryl, or heterocyclic, R = H, alkyl, or aryl, m > 1].

IT 261627-84-3

RL: DEV (Device component use); USES (Uses)  
 (organic **electroluminescent** component)

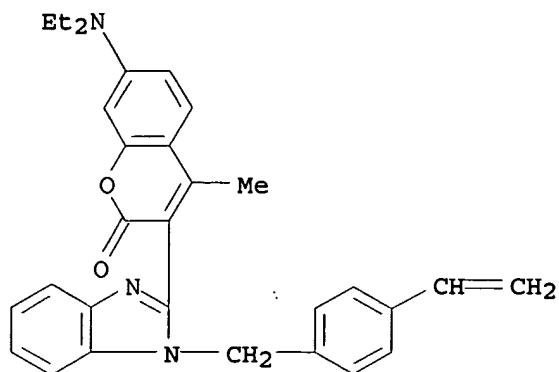
RN 261627-84-3 HCAPLUS

CN 2H-1-Benzopyran-2-one, 7-(diethylamino)-3-[1-[(4-ethenylphenyl)methyl]-1H-benzimidazol-2-yl]-4-methyl-, polymer with 2-ethenyl-1H-benzimidazole (9CI) (CA INDEX NAME)

CM 1

CRN 261627-83-2

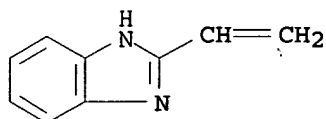
CMF C30 H29 N3 O2



CM 2

CRN 14984-26-0

CMF C9 H8 N2



IC ICM C09K011-06  
 ICS C09K011-06; C08F026-06; C08F212-14; H05B033-14  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 38  
 ST org electroluminescent component polymer  
 IT Electroluminescent devices  
 (organic electroluminescent component)  
 IT Polymers, uses  
 RL: DEV (Device component use); USES (Uses)  
 (organic electroluminescent component)  
 IT 107-06-2, 1,2-Dichloroethane, uses 852-38-0, PBD 50926-11-9,  
 Indium tin oxide 261627-78-5 261627-80-9 261627-81-0  
 261627-82-1 261627-84-3  
 RL: DEV (Device component use); USES (Uses)  
 (organic electroluminescent component)

L23 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:331312 HCAPLUS

DOCUMENT NUMBER: 131:37587

TITLE: 1,2,4-Triazole-containing vinyl compounds,  
 heat-resistant polymers therefrom, and organic  
 electroluminescent elements using the  
 polymers

INVENTOR(S): Kido, Junji; Takeuchi, Yoshiyuki

PATENT ASSIGNEE(S): Chemipro Kasei K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

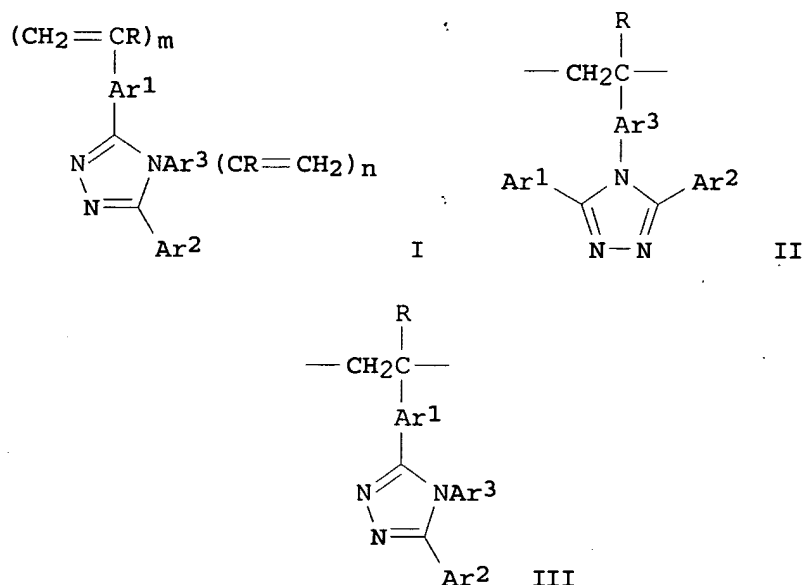
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 11140060	A	19990525	JP 1997-322176	199711 07
PRIORITY APPLN. INFO.:			JP 1997-322176	199711 07

GI



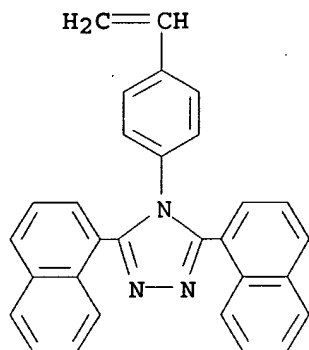
- AB 1,2,4-Triazole-containing vinyl compds. I [R = H, alkyl; Ar1-Ar3 = (substituted) aromatic group; m, n = 0, 1; m + n = 1] and their polymers (number-average mol. weight 1000-1,000,000) having repeating units II or III (R, Ar1-Ar3 = same as above) are claimed. Organic electroluminescent (EL) elements using the polymers in the carrier-transporting and/or luminescent layers are also claimed. An EL element using the polymer film shows high durability.
- IT 226882-43-5P  
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(preparation of triazole-containing vinyl compds. and their heat-resistant polymers for organic electroluminescent elements)
- RN 226882-43-5 HCAPLUS
- CN 4H-1,2,4-Triazole, 4-(4-ethenylphenyl)-3,5-di-1-naphthalenyl-, homopolymer (9CI) (CA INDEX NAME)



CM 1

CRN 226882-39-9

CMF C30 H21 N3



- IC ICM C07D249-18  
ICS C08F012-32; H05B033-14; H05B033-22; C09K011-06
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 28, 35, 74, 76
- ST triazole vinyl polymer prepn **electroluminescent** element;  
phenyltriazole polymer prepn **electroluminescent** element
- IT **Electroluminescent** devices  
Heat-resistant materials  
(preparation of triazole-containing vinyl compds. and their heat-resistant polymers for organic **electroluminescent** elements)
- IT 38215-36-0 65181-78-4, TPD  
RL: DEV (Device component use); USES (Uses)  
(preparation of triazole-containing vinyl compds. and their heat-resistant polymers for organic **electroluminescent** elements)
- IT 288-88-0DP, 1H-1,2,4-Triazole, aryl derivs., polymers 226882-42-4P  
226882-43-5P 226882-44-6P 226882-45-7P  
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(preparation of triazole-containing vinyl compds. and their heat-resistant polymers for organic **electroluminescent** elements)
- IT 62-53-3, Benzenamine, reactions 86-55-5, 1-Naphthoic acid  
589-16-2, p-Ethylaniline 879-18-5, 1-Naphthalenecarboxylic acid  
chloride 6068-72-0, p-Cyanobenzoyl chloride 14002-51-8,  
4-Phenylbenzoyl chloride 64328-55-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of triazole-containing vinyl compds. and their heat-resistant polymers for organic **electroluminescent** elements)
- IT 2459-24-7P, Methyl 1-naphthoate 5814-09-5P 6781-70-0P  
43038-45-5P 185902-62-9P 226882-38-8P 226882-39-9P  
226882-40-2P 226882-41-3P 226882-46-8P 226882-47-9P  
226882-48-0P 226882-49-1P 226882-51-5P 226882-53-7P  
226882-56-0P 226882-58-2P 226882-60-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
RACT (Reactant or reagent)  
(preparation of triazole-containing vinyl compds. and their heat-resistant polymers for organic **electroluminescent** elements)

L23 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:319015 HCAPLUS  
DOCUMENT NUMBER: 130:359138  
TITLE: Vinyl polymers and electroluminescence  
device elements  
INVENTOR(S): Kido, Junji; Igarashi, Tatsuya; Okada, Hisashi;  
Yamanouchi, Junichi  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11130817	A	19990518	JP 1997-351512	199712 19
PRIORITY APPLN. INFO.:			JP 1997-232742	A 199708 28

AB The elements comprise a polymer [CR1(L1Z1)CH2]m (L1 = aromatic hydrocarbon or divalent linking group containing heterocyclic group; Z1 = coumalin derivative; R1 = H, alkyl, aryl; m > 1).

IT 221464-00-2

RL: DEV (Device component use); USES (Uses)  
(vinyl polymers and electroluminescence device elements)

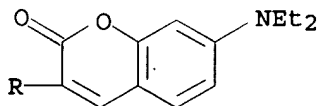
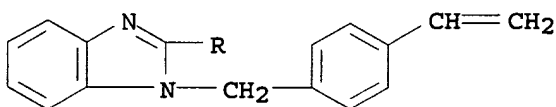
RN 221464-00-2 HCAPLUS

CN 2H-1-Benzopyran-2-one, 7-(diethylamino)-3-[1-[(4-ethenylphenyl)methyl]-1H-benzimidazol-2-yl]-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

CM 1

CRN 221463-98-5

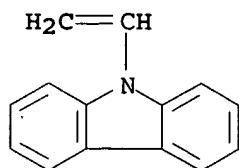
CMF C29 H27 N3 O2



CM 2

CRN 1484-13-5

CMF C14 H11 N



IC ICM C08F012-22  
ICS C08F024-00; C08F026-06; C08F028-06; C09K011-06; H05B033-14;  
H05B033-22

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related  
Properties)  
Section cross-reference(s): 35

ST vinyl coumalin polymer **electroluminescence** component

IT Vinyl compounds, properties  
RL: PRP (Properties)  
(polymers; vinyl polymers and **electroluminescence**  
device elements)

IT **Electroluminescent** devices  
(vinyl polymers and **electroluminescence** device  
elements)

IT Aromatic hydrocarbons, processes  
RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(vinyl polymers and **electroluminescence** device  
elements)

IT 15082-28-7 23467-27-8 25067-59-8, Polyvinylcarbazole  
221464-00-2 221464-03-5 225109-97-7 225110-00-9  
225110-02-1 225110-05-4 225110-07-6  
RL: DEV (Device component use); USES (Uses)  
(vinyl polymers and **electroluminescence** device  
elements)

L23 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:182786 HCAPLUS

DOCUMENT NUMBER: 130:259360

TITLE: Multilayer **electroluminescent** device  
including vinyl polymer and showing good  
luminescent characteristics

INVENTOR(S): Kido, Junji; Igarashi, Tatsuya; Okada, Hisashi;  
Yamanouchi, Junichi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 11074077	A	19990316	JP 1997-232743	199708 28
PRIORITY APPLN. INFO.:				199708 28

AB Title device, showing excellent durability, contains a polymer containing  $\geq 1$  repeating unit  $[\text{CR}_1(\text{L}_1\text{nZ})\text{CH}_2]_{\text{m}_1}$  [ $\text{R}_1 = \text{H}$ , alkyl, aryl;  $\text{L}_1 = \text{phenylene}$ ,  $\text{O}$ ,  $\text{CH}_2$ ,  $\text{A}$  ( $\text{Q} = 5\text{- or }6\text{-membered azacycle}$ );  $\text{n}_1 = 0, 1$ ;  $\text{m}_1 \geq 1$ ;  $\text{Z}_1 = \text{fluorescent dye residue}$ ].

IT 221464-00-2P

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(multilayer **electroluminescent** device including vinyl polymer and showing good luminescent characteristics)

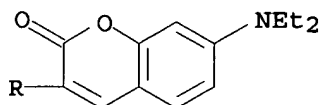
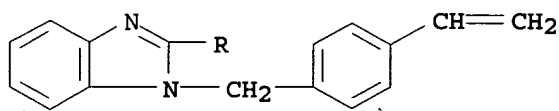
RN 221464-00-2 HCAPLUS

CN 2H-1-Benzopyran-2-one, 7-(diethylamino)-3-[1-[(4-ethenylphenyl)methyl]-1H-benzimidazol-2-yl]-, polymer with 9-ethenyl-9H-carbazole (9CI) (CA INDEX NAME)

CM 1

CRN 221463-98-5

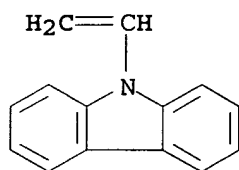
CMF C29 H27 N3 O2



CM 2

CRN 1484-13-5

CMF C14 H11 N



IC ICM H05B033-14

ICS C08F012-00; C08F016-14; C08F024-00; C08F026-00; C08F246-00; C08L025-18; C08L029-10; C08L037-00; C08L039-04; C08L057-00; C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

ST **electroluminescent** device multilayer vinyl polymer contg; luminance durability laminated **electroluminescent** device

IT **Electroluminescent** devices

(multilayer **electroluminescent** device including vinyl

polymer and showing good luminescent characteristics)  
 IT 58851-99-3P 221463-98-5P 221463-99-6P  
 RL: PNU (Preparation, unclassified); RCT (Reactant); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (in preparation of vinyl monomer for multilayer  
 electroluminescent device)  
 IT 95-01-2, 4-Hydroxysalicylaldehyde 1592-20-7 27425-55-4  
 29182-42-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (in preparation of vinyl monomer for multilayer  
 electroluminescent device)  
 IT 221464-00-2P 221464-01-3P 221464-03-5P 221464-04-6P  
 221464-06-8P 221464-09-1P 221464-11-5P 221464-14-8P  
 221464-17-1P 221552-95-0P  
 RL: DEV (Device component use); PNU (Preparation, unclassified);  
 PREP (Preparation); USES (Uses)  
 (multilayer electroluminescent device including vinyl  
 polymer and showing good luminescent characteristics)

=> d l24 ibib abs hitstr hitind 1-8

L24 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:723391 HCAPLUS  
 DOCUMENT NUMBER: 133:303619  
 TITLE: Heat development photosensitive material for  
 photomechanical process  
 INVENTOR(S): Fukui, Kota; Oya, Toyoharu  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 56 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

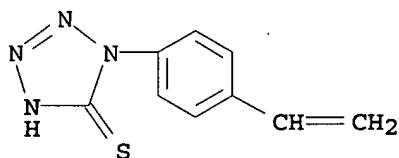
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000284409	A	20001013	JP 1999-89561	199903 30
PRIORITY APPLN. INFO.:			JP 1999-89561	199903 30

OTHER SOURCE(S): MARPAT 133:303619

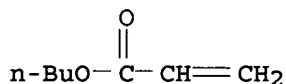
AB The title photosensitive material, containing a non-photosensitive organic Ag salt, a photosensitive Ag halide, and a binder on a support, contains, on the Ag halide-containing image-forming layer side, a compound WLnQYlCXlZlZ2 (Z1, Z2 = halo; X1 = H, electron-attracting group; Y1 = CO, SO2; Q = arylene, divalent heterocyclic group; L = linking group; W = carboxyl or its salt, sulfo or its salt, phosphoric acid, OH, quaternary ammonium, polyethyleneoxy; n = 0 or 1) and ≥1 selected from a compound X1lJmB1 (X1l = residue of photog. inhibitor having N-containing heterocycle; J = divalent linking group; B1 = ballast; m ≥ 1), a polymer having a repeating unit derived from a compound Q1X12 (Q1 = ethylenic unsatd. group, ethylenic unsatd. group-containing group; X12 = residue of photog. inhibitor having N-containing heterocycle), and a compound A1X13 (A1 = water soluble

group-containing group; X13 = residue of photog. inhibitor having N-containing heterocycle). The material for scanner and image setter shows high photog. properties and prevents black spot formation even after storage.

IT 288089-65-6  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (heat-developable photog. material containing organic polyhalo compound and development inhibitor)  
 RN 288089-65-6 HCAPLUS  
 CN 2-Propenoic acid, butyl ester, polymer with 1-(4-ethenylphenyl)-1,2-dihydro-5H-tetrazole-5-thione (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 55425-03-1  
 CMF C9 H8 N4 S



CM 2  
 CRN 141-32-2  
 CMF C7 H12 O2



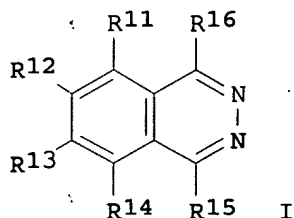
IC ICM G03C001-498  
 ICS G03C001-498  
 CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 IT 41018-11-5 97916-68-2 253143-84-9 288089-65-6  
 299445-86-6 299446-56-3  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (heat-developable photog. material containing organic polyhalo compound and development inhibitor)

L24 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:561005 HCAPLUS  
 DOCUMENT NUMBER: 133:185579  
 TITLE: Heat development photographic material and image formation sing same  
 INVENTOR(S): Oya, Toyoharu  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent

LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000227644	A	20000815	JP 1999-30069	19990208
PRIORITY APPLN. INFO.:				19990208
				19990208

OTHER SOURCE(S): MARPAT 133:185579  
 GI



AB The title photog. material contains (a) a reducible Ag salt, (b) a reducing agent, (c) a binder, (d)  $\geq 1$  compound I (R11-16 = H or substituents which link each other to form rings)., and (e)  $\geq 1$  compound Z1LnB (Z1 = N-containing heterocycle; L = divalent linking group; B = ballast; n = 1-4),  $\geq 1$  polymer containing a repeating unit derived from a monomer Z2Q (Z2 = N-containing heterocycle; Q = group having  $\geq 1$  C-C double bond) or  $\geq 1$  compound Z3A (Z3 = N-containing heterocycle; A = water-soluble group-containing group). The material is heat-developed to form images. The material shows good photog. properties and increase of fog is little upon storage.

IT 212572-06-0 288089-65-6  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (heat-developable photog. material containing phthalazine compound and nitrogen-containing heterocyclic compound)

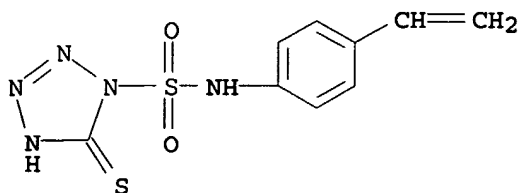
RN 212572-06-0 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with N-(4-ethenylphenyl)-2,5-dihydro-5-thioxo-1H-tetrazole-1-sulfonamide (9CI) (CA INDEX NAME)

CM 1

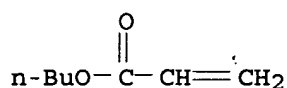
CRN 212572-05-9

CMF C9 H9 N5 O2 S2



CM 2

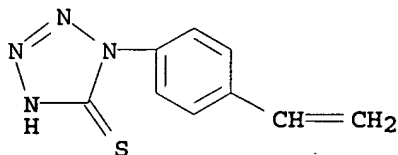
CRN 141-32-2  
CMF C7 H12 O2



RN 288089-65-6 HCAPLUS  
CN 2-Propenoic acid, butyl ester, polymer with 1-(4-ethenylphenyl)-1,2-dihydro-5H-tetrazole-5-thione (9CI) (CA INDEX NAME)

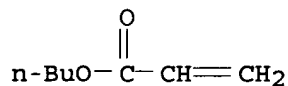
CM 1

CRN 55425-03-1  
CMF C9 H8 N4 S



CM 2

CRN 141-32-2  
CMF C7 H12 O2



IC ICM G03C001-498  
CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
IT 23249-95-8 33694-96-1 38065-29-1 41018-11-5 78032-05-0  
80355-73-3 110633-24-4 122882-99-9 126528-88-9 212571-94-3  
212572-03-7 212572-06-0 212572-09-3 212572-13-9  
288089-65-6 288314-68-1 288314-71-6 288314-72-7  
288314-73-8 288314-74-9



RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
(heat-developable photog. material containing phthalazine compound and nitrogen-containing heterocyclic compound)

L24 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:551231 HCAPLUS

DOCUMENT NUMBER: 133:185449

TITLE: Heat-developable ultrahigh contrast photographic material suitable for printing plate making

INVENTOR(S): Ezoe, Toshihide; Yamada, Kosaburo

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 54 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2000221633	A	20000811	JP 1999-21974	19990129
				19990129

PRIORITY APPLN. INFO.: JP 1999-21974

OTHER SOURCE(S): MARPAT 133:185449

AB The heat-sensitive photog. material contains (1) a high contrast agent selected from a specific substituted alkene derivative, substituted isoxazole derivative, and acetal compound, (2) X1-Jn-B1 (X1 = photog. development inhibitor containing N-containing ring; J = divalent connection group; B1 = ballast group;  $n \geq 1$ ), (3) polymer containing Q-X2 (Q = ethylenic unsatd. group, group containing ethylenic unsatd. group; X2 = photog. development inhibitor containing N-containing ring) and (4) A1-X3 (A1 = group containing water-soluble group; X3 = photog. development inhibitor containing N-containing ring). The photog. material surface has pH value of 3-7.

IT 212572-06-0 288089-65-6

RL: DEV (Device component use); USES (Uses)

(in heat-developable ultrahigh contrast photog. material suitable for printing plate making)

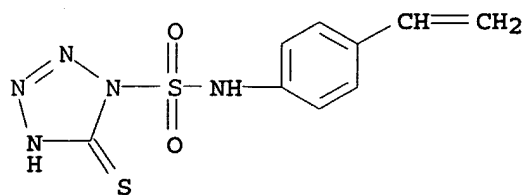
RN 212572-06-0 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with N-(4-ethenylphenyl)-2,5-dihydro-5-thioxo-1H-tetrazole-1-sulfonamide (9CI) (CA INDEX NAME)

CM 1

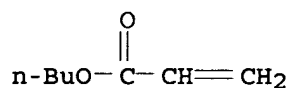
CRN 212572-05-9

CMF C9 H9 N5 O2 S2



CM 2

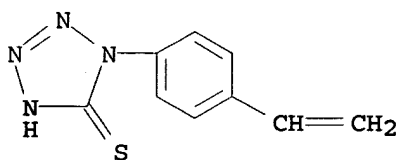
CRN 141-32-2  
CMF C7 H12 O2



RN 288089-65-6 HCAPLUS  
CN 2-Propenoic acid, butyl ester, polymer with 1-(4-ethenylphenyl)-1,2-dihydro-5H-tetrazole-5-thione (9CI) (CA INDEX NAME)

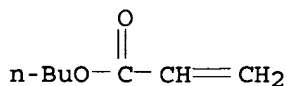
CM 1

CRN 55425-03-1  
CMF C9 H8 N4 S



CM 2

CRN 141-32-2  
CMF C7 H12 O2



IC ICM G03C001-498  
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
IT 7440-66-6D, Zinc, ((dimethylpropyl)phenoxy)propioamidophenyl)formylp yrazoledione complex, uses 23015-22-7 41018-11-5 110608-95-2  
110802-27-2 126528-88-9 212571-92-1 212572-06-0  
212572-13-9 212572-42-4 263553-17-9 282090-76-0  
288089-65-6 288089-67-8 288089-68-9 288089-69-0

288089-70-3 288089-71-4 288253-32-7D, zinc complex  
 RL: DEV (Device component use); USES (Uses)  
 (in heat-developable ultrahigh contrast photog. material suitable  
 for printing plate making)

L24 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:493588 HCAPLUS  
 DOCUMENT NUMBER: 129:142619  
 TITLE: Negative image recording material  
 INVENTOR(S): Aoshima, Keitaro  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Eur. Pat. Appl., 33 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 854388	A2	19980722	EP 1998-100883	199801 20
EP 854388	A3	19990929		
EP 854388	B1	20030813		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 10203037	A	19980804	JP 1997-7532	199701 20
JP 3688839	B2	20050831		
JP 10239794	A	19980911	JP 1997-39019	199702 24
JP 3839541	B2	20061101		
US 6068963	A	20000530	US 1998-8487	199801 16
PRIORITY APPLN. INFO.:			JP 1997-7532	A 199701 20
			JP 1997-39019	A 199702 24

AB The present invention provides a neg. image recording material which does not smudge nonimage areas during printing and provides excellent film strength of recorded image areas, and exhibits improved press life. Particularly when the material is used for recording with a variety of laser devices that emit IR rays, the material enables direct plate making from computer digital data. The neg. image recording material of the invention contains (A) a polymer having a heterocyclic group containing an unsatd. bond therein, (B) a crosslinking agent that crosslinks with the aid of an acid, and (C) a compound that generates an acid upon exposure to light or heat.

IT 210468-18-1P  
 RL: DEV (Device component use); SPN (Synthetic

preparation); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(preparation and use in neg. image recording materials for planog.  
printing plate preparation)

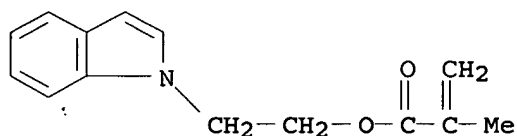
RN 210468-18-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 1-[(4-  
ethenylphenyl)methyl]-1H-imidazole and 2-(1H-indol-1-yl)ethyl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 210468-08-9

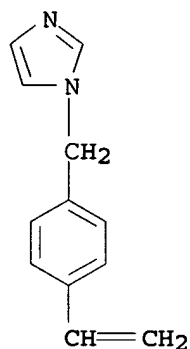
CMF C14 H15 N O2



CM 2

CRN 78430-91-8

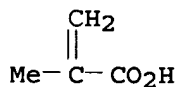
CMF C12 H12 N2



CM 3

CRN 79-41-4

CMF C4 H6 O2



IC ICM G03F007-038

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

IT 210468-09-0P 210468-11-4P 210468-13-6P 210468-15-8P

210468-17-0P 210468-18-1P 210468-20-5P 210468-21-6P  
210468-23-8P

RL: DEV (Device component use); SPN (Synthetic  
preparation); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)

(preparation and use in neg. image recording materials for planog.  
printing plate preparation)

L24 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:239455 HCAPLUS

DOCUMENT NUMBER: 128:309645

TITLE: Ink-jet recording paper having rapid ink  
absorption for forming water- and  
light-resistant images

INVENTOR(S): Kasahara, Kenzo; Saito, Yoichi

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10100397	A	19980421	JP 1996-261751	199610 02
PRIORITY APPLN. INFO.: JP 1996-261751				199610 02

AB The paper comprises a water-nonabsorbing support layer containing acid-modified gelatin and/or image stabilizers, on which having mordant-containing layers which fix water-soluble dyes and porous layers having void volume  $\geq 90\%$  of volume of the maximum ink ejection value. The mordants may be tertiary amine- or quaternary ammonium salt-based polymers. Thus, a polyethylene-laminated paper support was laminated with (i) base layer containing mordant 1,4-diethenylbenzene-1-[(4-ethenylphenyl)methyl]-1H-imidazole-styrene copolymer and phenylcarbonyl-modified gelatin (I) and PVA, (ii) a internal layer containing CaCO<sub>3</sub> and PVA and of void volume 20 mL/m<sup>2</sup>, and (iii) a top layer containing I and PVA showed excellent lightfastness, water resistance, and dryability.

IT 178633-08-4

RL: DEV (Device component use); USES (Uses)

(mordants; ink-jet printing paper having porous layers of large  
void volume and showing rapid ink absorption)

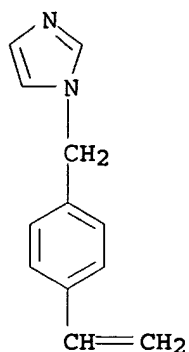
RN 178633-08-4 HCAPLUS

CN 1H-Imidazole, 1-[(4-ethenylphenyl)methyl]-, polymer with  
1,4-diethenylbenzene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

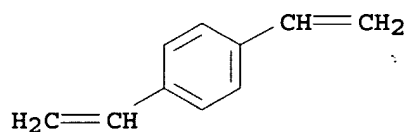
CRN 78430-91-8

CMF C12 H12 N2



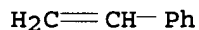
CM 2

CRN 105-06-6  
CMF C10 H10



CM 3

CRN 100-42-5  
CMF C8 H8



IC ICM B41J002-01  
ICS C09B065-00  
CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)  
Section cross-reference(s): 41, 74  
IT 178633-08-4 206192-98-5  
RL: DEV (Device component use); USES (Uses)  
(mordants; ink-jet printing paper having porous layers of large  
void volume and showing rapid ink absorption)

L24 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1998:73658 HCAPLUS  
DOCUMENT NUMBER: 128:198653  
TITLE: Ink-jet printing receptor paper containing  
polymer mordant  
INVENTOR(S): Kasahara, Kenzo  
PATENT ASSIGNEE(S): Konica Co., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10029369	A	19980203	JP 1996-186200	19960716
PRIORITY APPLN. INFO.:				19960716
				19960716

AB The paper comprises a support coated with a layer containing a polymer mordant  $AxByCzDu$  (A = repeating unit derived from copolymerizable monomers having tert-amino or quaternary ammonium group, B = repeating unit having a group able to quench singlet O or absorb UV rays, C = repeating unit containing  $\geq 2$  ethylenic unsatd. groups, and D = repeating unit containing an ethylenic unsatd. group other than A and B;  $x = 10-90$ ,  $y = 10-90$ ,  $z = 0-10$ ,  $u = 0-80$  mol%,  $x + y + z + u = 100$  mol%). The paper provides high quality images with good resistance to water, moisture, and light when printed by ink-jet printing using water-soluble dyes. Thus, a polyethylene-laminated paper support was coated with a composition containing phenylcarbamoyled gelatin, poly(vinyl alc.), and 4-vinylpyridine-2-methyl-4-hydroxy-5-tert-butylphenyl acrylate-Bu acrylate-hydroxymethyl methacrylate copolymer to give an ink-jet printing paper.

IT 203635-12-5

RL: DEV (Device component use); USES (Uses)

(ink-jet printing receptor paper containing polymer mordant)

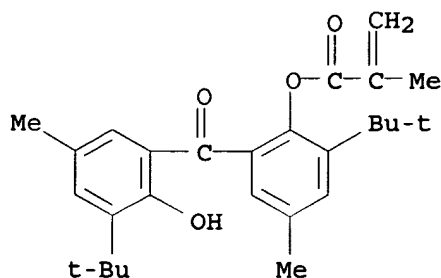
RN 203635-12-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 2-(1,1-dimethylethyl)-6-[3-(1,1-dimethylethyl)-2-hydroxy-5-methylbenzoyl]-4-methylphenyl 2-methyl-2-propenoate, ethenylbenzene and 1-[(4-ethenylphenyl)methyl]-1H-imidazole (9CI) (CA INDEX NAME)

CM 1

CRN 203635-11-4

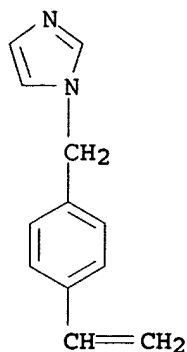
CMF C27 H34 O4



CM 2

CRN 78430-91-8

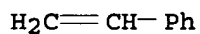
CMF C12 H12 N2



CM 3

CRN 100-42-5

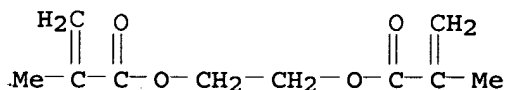
CMF C8 H8



CM 4

CRN 97-90-5

CMF C10 H14 O4



IC ICM B41M005-00

ICS B05D005-04; B32B027-00; C08F020-60; C08F026-06; C09D011-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 203635-09-0 203635-10-3 203635-12-5 203635-13-6

RL: DEV (Device component use); USES (Uses)

(ink-jet printing receptor paper containing polymer mordant)

L24 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:545593 HCAPLUS

DOCUMENT NUMBER: 125:181148

TITLE: Silver halide photographic element and its processing

INVENTOR(S): Takamukai, Yasuhiko

PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:



PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08160561	A	19960621	JP 1994-303642	19941207

PRIORITY APPLN. INFO.:

JP 1994-303642

19941207

AB The element with gelatin content 1.3-2.5 g/m<sup>2</sup> has a Se-sensitized Ag halide emulsion layer with content of particles having aspect ratio  $\geq 2 \geq 50\%$  and a nonphotosensitive hydrophilic colloid layer, where the emulsion layer and/or the colloid layer contains A<sub>x</sub>B<sub>y</sub> (A = ethylenically unsatd. monomer unit having heterocyclic group containing  $\geq 1$  basic N atom; A  $\neq$  B; x = 0.1-100; y = 0-99.9). The element is developed by refilling a 35-98-mL/m<sup>2</sup> solution for 10-30 s. The element showed high sensitivity and improved pressure characteristics.

IT 180681-06-5

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(high-sensitivity silver halide photog. element containing heterocyclic group-containing ethylene polymer and its processing)

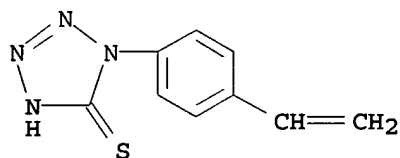
RN 180681-06-5 HCAPLUS

CN 5H-Tetrazole-5-thione, 1-(4-ethenylphenyl)-1,2-dihydro-, polymer with 2-propen-1-amine (9CI) (CA INDEX NAME)

CM 1

CRN 55425-03-1

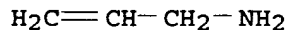
CMF C9 H8 N4 S



CM 2

CRN 107-11-9

CMF C3 H7 N



IC ICM G03C001-053

ICS G03C001-035; G03C001-09; G03C001-32; G03C001-95; G03C005-26; G03C005-31

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT 1314-60-9, Antimony pentaoxide 1344-28-1, Alumina, uses

7631-86-9, Colloidal silica, uses 29297-55-0 110432-29-6

180681-06-5 180681-08-7 180681-10-1 180681-12-3  
RL: DEV (Device component use); MOA (Modifier or additive  
use); USES (Uses)  
(high-sensitivity silver halide photog. element containing  
heterocyclic group-containing ethylene polymer and its processing)

L24 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:431185 HCAPLUS  
DOCUMENT NUMBER: 125:71731  
TITLE: Manufacture of diffusion-transfer  
image-receiving material  
INVENTOR(S): Oohayashi, Keiji; Tsucha, Masaru  
PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08095216	A	19960412	JP 1994-229773	199409 26
PRIORITY APPLN. INFO.:				199409 26

AB In manufacture of the image-receiving material comprising a support having thereon a hydrophilic binder and a base precursor which releases a base by complexation reaction, a coating solution for  $\geq 1$  hydrophilic binder-containing layer formed on the side containing the basic precursor against the support contains a carbonate salt so that pH of the coating surface after drying becomes  $\geq 9$ . The base precursor is preferably a compound which releases a base by complexation reaction in the presence of  $\text{Zn}(\text{OH})_2$  and  $\text{H}_2\text{O}$ . An image-receiving material with high-pH surface is obtained and provides color images with high d. and contrast.

IT 178633-08-4

RL: DEV (Device component use); USES (Uses)  
(mordant; manufacture of diffusion-transfer image-receiving material using coating composition containing carbonate salt)

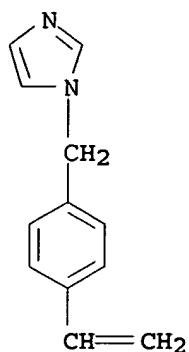
RN 178633-08-4 HCAPLUS

CN 1H-Imidazole, 1-[(4-ethenylphenyl)methyl]-, polymer with  
1,4-diethenylbenzene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

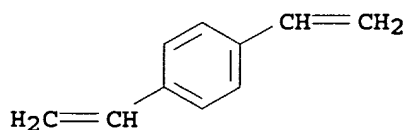
CRN 78430-91-8

CMF C12 H12 N2



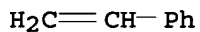
CM 2

CRN 105-06-6  
CMF C10 H10



CM 3

CRN 100-42-5  
CMF C8 H8



IC ICM G03C008-40

ICS G03C008-40; G03C008-26; G03C008-56

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 178633-08-4

RL: DEV (Device component use); USES (Uses)

(mordant; manufacture of diffusion-transfer image-receiving material  
using coating composition containing carbonate salt)

=&gt; d l30 ibib abs hitstr hitind 1-15

L30 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:666690 HCAPLUS

DOCUMENT NUMBER: 140:60112

TITLE: Three-Point Hydrogen Bonding Assembly between a  
Conjugated PPV and a Functionalized Fullerene  
AUTHOR(S): Li, Yuliang; Zhu, Daoben; Xiao, Shengqiang; Liu,  
Huibiao

CORPORATE SOURCE: Center for Molecular Science, Institute of

Chemistry, Chinese Academy of Sciences, Beijing,  
100080, Peop. Rep. China

SOURCE: PMSE Preprints (2003), 89, 326-328  
CODEN: PPMRA9; ISSN: 1550-6703

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal; (computer optical disk)

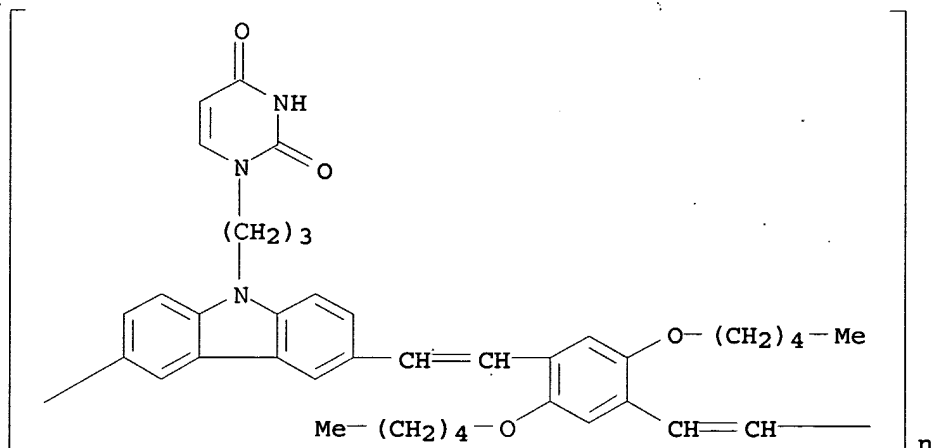
LANGUAGE: English

AB A uracil-containing polyphenylenevinylene interacted with DAP-C60 containing 2,6-diacylamidopyridine through H bonding to give a supramol. system. Fluorescence quenching expts. indicated a strong interaction between the 2 components ( $K_{SV} = 5.8 + 104 \text{ M}^{-1}$ ). An FESEM image of the system showed that the assembly consisted of particles having mean diameter 75 nm.

IT 532933-06-5DP, thermally converted, reaction products with diacylamidopyridine-containing C60 fullerene derivative  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(three-point hydrogen bonding assembly between conjugated polyphenylenevinylene derivative and functionalized fullerene)

RN 532933-06-5 HCAPLUS

CN Poly[[9-[3-(3,4-dihydro-2,4-dioxo-1(2H)-pyrimidinyl)propyl]-9H-carbazole-3,6-diyl]-1,2-ethenediyl[2,5-bis(pentyloxy)-1,4-phenylene]-1,2-ethenediyl] (9CI) (CA INDEX NAME)



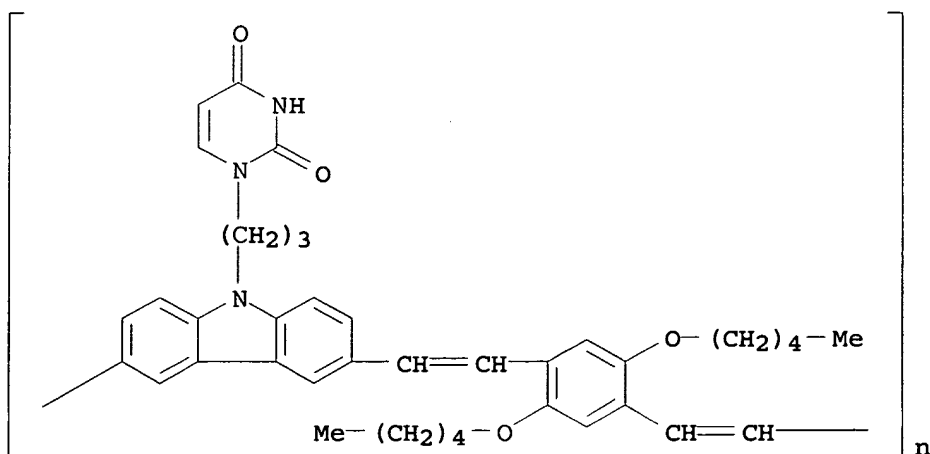
CC 35-8 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 73

IT 532933-04-3DP, thermally converted, reaction products with diacylamidopyridine-containing C60 fullerene derivative 532933-05-4DP, reaction products with uracil-containing polyphenylenevinylene derivative 532933-06-5DP, thermally converted, reaction products with diacylamidopyridine-containing C60 fullerene derivative  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(three-point hydrogen bonding assembly between conjugated polyphenylenevinylene derivative and functionalized fullerene)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L30 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2003:286642 HCAPLUS

DOCUMENT NUMBER: 139:7347  
 TITLE: Three-Point Hydrogen Bonding Assembly between a Conjugated PPV and a Functionalized Fullerene  
 AUTHOR(S): Fang, Hongjuan; Wang, Shu; Xiao, Shengqiang; Yang, Junlin; Li, Yuliang; Shi, Zhiqiang; Li, Hongmei; Liu, Huibiao; Xiao, Shengxiong; Zhu, Daoben  
 CORPORATE SOURCE: Graduate School of Chinese Academy of Sciences, Center for Molecular Sciences, Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China  
 SOURCE: Chemistry of Materials (2003), 15(8), 1593-1597  
 CODEN: CMATEX; ISSN: 0897-4756  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB A new self-assembly system between a PPV derivative and an organofullerene through a three-point hydrogen-bonding interaction was prepared. The formation of hydrogen bonding was confirmed by <sup>1</sup>H NMR studies in CDCl<sub>3</sub>. Fluorescence quenching expts. indicated that the fluorescence of uracil-containing polyphenylenevinylene derivative U-PPV was greatly quenched by 2,6-diacylamidopyridine-containing compound DAP-C60 (K<sub>SV</sub> = 5.8 × 10<sup>4</sup> M<sup>-1</sup>).  
 IT 532933-06-5DP, thermally converted, reaction products with diacylamidopyridine-containing C60 fullerene derivative  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (three-point hydrogen bonding assembly between conjugated polyphenylenevinylene derivative and functionalized fullerene)  
 RN 532933-06-5 HCAPLUS  
 CN Poly[[9-[3-(3,4-dihydro-2,4-dioxo-1(2H)-pyrimidinyl)propyl]-9H-carbazole-3,6-diyl]-1,2-ethenediyl[2,5-bis(pentyloxy)-1,4-phenylene]-1,2-ethenediyl] (9CI) (CA INDEX NAME)



CC 35-8 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 73  
 IT 532933-04-3DP, thermally converted, reaction products with diacylamidopyridine-containing C60 fullerene derivative 532933-05-4DP, reaction products with uracil-containing polyphenylenevinylene derivative 532933-06-5DP, thermally converted, reaction products with diacylamidopyridine-containing C60 fullerene derivative

RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)

(three-point hydrogen bonding assembly between conjugated  
polyphenylenevinylene derivative and functionalized fullerene)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L30 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:741146 HCAPLUS

DOCUMENT NUMBER: 138:39648

TITLE: Poly(arylene ether)s containing 1,2,4-triazole  
and phthalimide or naphthalimide moieties joined  
by a N-N linkage

AUTHOR(S): Shaikh, Abbas Alli G.; Hlil, Antisar R.; Shaikh,  
Parvin A.; Hay, Allan S.

CORPORATE SOURCE: Department of Chemistry, McGill University,  
Montreal, QC, H3A2K6, Can.

SOURCE: Macromolecules (2002), 35(23), 8728-8737  
CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis and characterization of new monomers and polymers  
containing the 1,2,4-triazole group are described. A model reaction of  
4-N-amino-3,5-diphenyltriazole with phthalic and naphthalic  
anhydride demonstrated the preparation of the 1,2,4-triazole-imide  
compds. containing a N-N linkage. From 4-amino-3,5-bis(4-  
hydroxyphenyl)triazole four new bisphenols with pendent phthalimide  
or naphthalimide moieties linked through a N-N linkage were prepared  
in a one-step reaction in high yield. Poly(aryl ether)s were  
synthesized from these bisphenols, or their carbamate derivs., by  
reaction with various activated arylene difluorides. The reactions  
were carried out in DMSO in the presence of potassium carbonate to  
yield high mol. weight, amorphous, and thermally stable polymers with  
pendent imide moieties joined by a N-N linkage. A new bisphenol  
with a pendent 3,5-diphenyl-1,2,4-triazole was prepared by an  
imidization reaction of an anhydride bisphenol with  
4-amino-3,5-diphenyltriazole. Polymerization with activated difluoro  
compds. gave poly(aryl ether)s with a pendent 1,2,4-triazole moiety.  
These polymers had high Tg's, from 222 to 283 °C. Copolymers  
containing the 1,2,4-triazole in the polymer backbone as well as pendent  
were also prepared. Using decafluorobiphenyl as coreactant, extremely  
high mol. weight polymers were obtained at lower polymerization temperature,

90-100

°C, in a shorter reaction time. The polymers formed clear,  
transparent, flexible, and tough films from DMF solution. Many of the  
polymers showed strong blue to greenish-yellow fluorescence from 428  
to 510 nm in solution and in the solid state under UV, depending upon  
the monomer composition of the polymer.

IT 478416-22-7P 478416-24-9P 478416-26-1P  
478416-27-2P 478416-28-3P 478416-29-4P  
478416-61-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)

(preparation and characterization of aromatic polyethers containing  
1,2,4-triazole and phthalimide or naphthalimide moieties joined  
by a N-N linkage)

RN 478416-22-7 HCAPLUS

CN Poly[[4-(1,3-dihydro-1,3-dioxo-4,5,6,7-tetraphenyl-2H-isoindol-2-yl)-

4H-1,2,4-triazole-3,5-diyl]-1,4-phenyleneoxy-1,4-phenylenesulfonyl-  
1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

RN 478416-24-9 HCAPLUS  
CN Poly[[4-(1,3-dihydro-1,3-dioxo-4,5,6,7-tetraphenyl-2H-isoindol-2-yl)-  
4H-1,2,4-triazole-3,5-diyl]-1,4-phenyleneoxy-1,4-phenylenecarbonyl-  
1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

RN 478416-26-1 HCAPLUS  
CN Poly[[4-(1,3-dihydro-1,3-dioxo-4,5,6,7-tetraphenyl-2H-isoindol-2-yl)-  
4H-1,2,4-triazole-3,5-diyl]-1,4-phenyleneoxy-1,4-  
phenylene(phenylphosphinyldiene)-1,4-phenyleneoxy-1,4-phenylene]  
(9CI) (CA INDEX NAME)

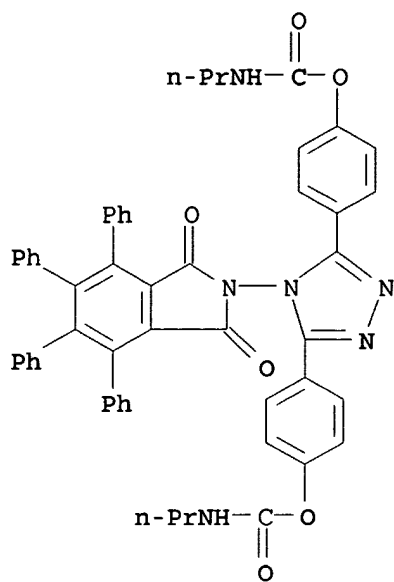
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

RN 478416-27-2 HCAPLUS  
CN Carbamic acid, propyl-, [4-(1,3-dihydro-1,3-dioxo-4,5,6,7-  
tetraphenyl-2H-isoindol-2-yl)-4H-1,2,4-triazole-3,5-diyl]di-4,1-  
phenylene ester, polymer with 1,1'-sulfonylbis[4-fluorobenzene]  
(9CI) (CA INDEX NAME)

CM 1

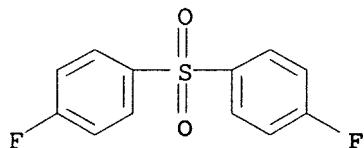
CRN 478415-99-5  
CMF C54 H44 N6 O6



CM 2

CRN 383-29-9

CMF C12 H8 F2 O2 S



RN 478416-28-3 HCAPLUS

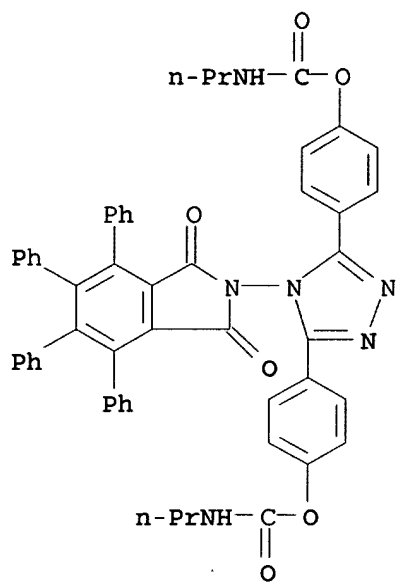
CN Carbamic acid, propyl-, [4-(1,3-dihydro-1,3-dioxo-4,5,6,7-tetraphenyl-2H-isoindol-2-yl)-4H-1,2,4-triazole-3,5-diyl]di-4,1-phenylene ester, polymer with bis(4-fluorophenyl)methanone (9CI)  
(CA INDEX NAME)

CM 1

CRN 478415-99-5

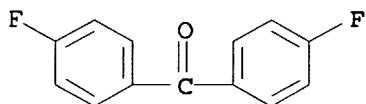
CMF C54 H44 N6 O6





CM 2

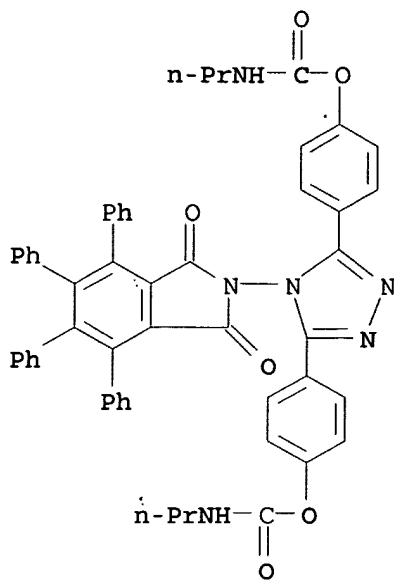
CRN 345-92-6  
CMF C13 H8 F2 O



RN 478416-29-4 HCAPLUS  
CN Carbamic acid, propyl-, [4-(1,3-dihydro-1,3-dioxo-4,5,6,7-tetraphenyl-2H-isoindol-2-yl)-4H-1,2,4-triazole-3,5-diyl]di-4,1-phenylene ester, polymer with bis(4-fluorophenyl)phenylphosphine oxide (9CI) (CA INDEX NAME)

CM 1

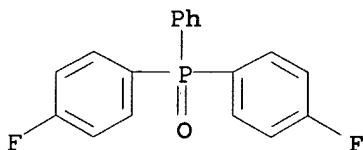
CRN 478415-99-5  
CMF C54 H44 N6 O6



CM : 2

CRN 54300-32-2

CMF C18 H13 F2 O P



RN 478416-61-4 HCAPLUS

CC Poly[[4-(1,3-dihydro-1,3-dioxo-4,5,6,7-tetraphenyl-2H-isoindol-2-yl)-4H-1,2,4-triazole-3,5-diyl]-1,4-phenyleneoxy(2,2',3,3',5,5',6,6'-octafluoro[1,1'-biphenyl]-4,4'-diyl)oxy-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73

IT	478416-03-4P	478416-04-5P	478416-05-6P	478416-06-7P
	478416-07-8P	478416-08-9P	478416-09-0P	478416-10-3P
	478416-11-4P	478416-12-5P	478416-13-6P	478416-14-7P
	478416-15-8P	478416-16-9P	478416-17-0P	478416-18-1P
	478416-19-2P	478416-20-5P	478416-21-6P	478416-22-7P
	478416-23-8P	478416-24-9P	478416-25-0P	

478416-26-1P 478416-27-2P 478416-28-3P  
478416-29-4P 478416-30-7P 478416-31-8P 478416-32-9P  
478416-33-0P 478416-34-1P 478416-35-2P 478416-36-3P  
478416-37-4P 478416-38-5P 478416-39-6P 478416-40-9P  
478416-41-0P 478416-42-1P 478416-43-2P 478416-44-3P  
478416-46-5P 478416-48-7P 478416-51-2P 478416-53-4P  
478416-54-5P 478416-55-6P 478416-56-7P 478416-57-8P  
478416-58-9P 478416-59-0P 478416-60-3P 478416-61-4P  
478416-62-5P 478416-63-6P 478416-64-7P 478416-65-8P  
478416-66-9P 478416-67-0P 478416-68-1P 478416-69-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation):

(preparation and characterization of aromatic polyethers containing  
1,2,4-triazole and phthalimide or naphthalimide moieties joined  
by a N-N linkage)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L30 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:426991 HCAPLUS  
DOCUMENT NUMBER: 131:122868  
TITLE: Silver halide color photographic material  
INVENTOR(S): Kubo, Nobuo; Onodera, Kaoru  
PATENT ASSIGNEE(S): Konica Co., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 57 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	
JP 11184040	A	19990709	JP 1997-357175	199712 25

PRIORITY APPLN. INFO.: JP 1997-357175  
199712  
25

OTHER SOURCE(S): MARPAT 131:122868

AB In the Ag halide color photog. material comprising a support, at  
least 1 red-sensitive Ag halide emulsion layer, at least 1  
green-sensitive Ag halide emulsion layer, at least 1 blue-sensitive  
Ag halide emulsion layer, and light-insensitive layers, the  
light-insensitive layer contains at least a specific compound capable  
of adsorbing Ag ion or Ag complex. The specific compound may be  
selected from phosphazine compound, polymer, latex, etc. The material  
is especially suitable as a color reversal photog. material and  
interimage-effects are improved.

IT 232938-75-9 232947-16-9

RL: MOA (Modifier or additive use); USES (Uses)  
(additive to interlayer of silver halide color photog. material  
for improving interimage-effects)

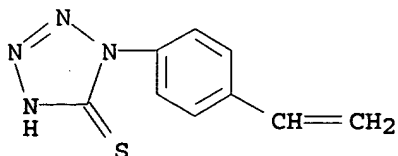
RN 232938-75-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 1-(4-ethenylphenyl)-1,2-  
dihydro-5H-tetrazole-5-thione and hexyl 2-propenoate (9CI) (CA  
INDEX NAME)

CM 1

CRN 55425-03-1

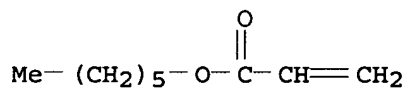
CMF C9 H8 N4 S



CM 2

CRN 2499-95-8

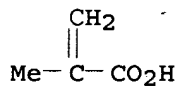
CMF C9 H16 O2



CM 3

CRN 79-41-4

CMF C4 H6 O2



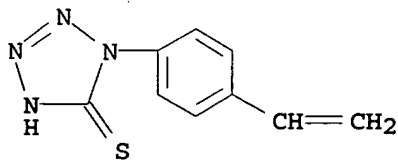
RN 232947-16-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with  
 1-(4-ethenylphenyl)-1,2-dihydro-5H-tetrazole-5-thione and sodium  
 ethenylbenzenesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 55425-03-1

CMF C9 H8 N4 S



CM 2

CRN 27457-28-9  
 CMF C8 H8 O3 S . Na  
 CCI IDS



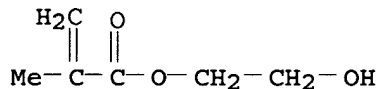
D1- CH=CH<sub>2</sub>

D1- SO<sub>3</sub>H

● Na

CM 3

CRN 868-77-9  
 CMF C6 H10 O3



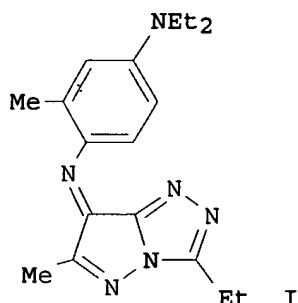
IC ICM G03C001-76  
 ICS G03C001-43; G03C007-00  
 CC 74-2 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 IT 940-71-6D, phenoxy derivative, cyclo matrix polymer 1184-10-7  
 4858-32-6 5032-83-7 7428-45-7 26085-02-9D,  
 Poly[nitrilo(dichlorophosphoranylidene)], diphenoxy group containing  
 92996-70-8 212571-97-6 232938-52-2 232938-53-3 232938-54-4  
 232938-55-5 232938-56-6 232938-57-7 232938-58-8 232938-60-2  
 232938-62-4 232938-63-5 232938-64-6 232938-66-8 232938-68-0  
 232938-69-1 232938-71-5 232938-72-6 232938-73-7 232938-74-8  
 232938-75-9 232938-76-0 232938-77-1 232938-79-3  
 232938-81-7 232938-82-8 232938-84-0 232938-85-1 232938-87-3  
 232938-88-4 232938-89-5 232938-90-8 232947-16-9  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (additive to interlayer of silver halide color photog. material  
 for improving interimage-effects)

L30 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1999:392736 HCAPLUS  
 DOCUMENT NUMBER: 131:60146  
 TITLE: Thermosensitive sublimation recording material  
 with good storage stability  
 INVENTOR(S): Nakamura, Masaki; Asatake, Atsushi  
 PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	----	-----	
JP 11165473	A	19990622	JP 1997-334048	199712 04
PRIORITY APPLN. INFO.:			JP 1997-334048	199712 04

GI



AB Title recording material comprises a colorant donor material and a colorant acceptor material, one of which contains a three-value boron compound, wherein the image is formed by thermal diffusion of the colorant to colorant acceptor. Thus, polyvinyl acetal (Eslec KS 1) 20 g and colorant I 10 g were coated on a PET base as 2.3 g/m<sup>2</sup> to form a colorant donor material, and boric acid 2.0, polyester resin (Vylon 200) 6.0, and polyester-modified silicone methylethylketone 0.3 g were coated on polyethylene-paper laminate to form a colorant acceptor material for thermal printer recording, showing image concentration 2.14, image penetration 5 (5 best, a worst) and white ground concentration 0.03.

IT 226881-44-3

RL: TEM (Technical or engineered material use); USES (Uses)  
 (in colorant acceptor material; thermosensitive sublimation  
 recording material with good storage stability)

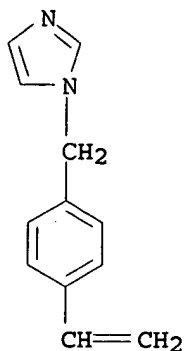
RN 226881-44-3 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with 1-[(4-ethenylphenyl)methyl]-1H-imidazole and 2-propenamide (9CI) (CA  
 INDEX NAME)

CM 1

CRN 78430-91-8

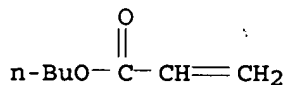
CMF C12 H12 N2



CM 2

CRN 141-32-2

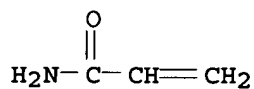
CMF C7 H12 O2



CM 3

CRN 79-06-1

CMF C3 H5 N O



IC ICM B41M005-38

ICS C07F005-02

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

IT 55-22-1, 4-Pyridinecarboxylic acid, uses 98-80-6, Phenylboric acid  
 150-46-9, Triethyl borate 960-71-4, Triphenyl borane 1095-03-0,  
 Triphenyl borate 10043-35-3, Boric acid, uses 37337-82-9, Vylon  
 200 226881-44-3

RL: TEM (Technical or engineered material use); USES (Uses)  
 (in colorant acceptor material; thermosensitive sublimation  
 recording material with good storage stability)

L30 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:555880 HCAPLUS

DOCUMENT NUMBER: 129:237713

TITLE: Thermographic black and white photographic  
 material with high contrast and fog resistance  
 and image-forming method using it

INVENTOR(S): Yamada, Taketoshi; Komamura, Tawara

PATENT ASSIGNEE(S): Konica Co., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10228077	A	19980825	JP 1997-31939	19970217

PRIORITY APPLN. INFO.: JP 1997-31939  
19970217

AB The material contains at least a binder, a Ag halide, an organic Ag salt, a hydrazine derivative, and one of the following compds. (1) X1JnB (X1 = residue of a photog. fog inhibitor with N-containing heterocyclic ring; J = bivalent linking group; B = ballast group; n ≥ 1); (2) a polymer containing QX2 (Q = ethylenically unsatd. group; group having an ethylenically unsatd. group; X2 = X1); (3) AX3 (A = water-soluble group; X3 = X1). A black and white image is formed by developing the material for 1-180 s. The material shows high contrast, improved storage stability for a long time, and less fogging of an unexposed area after development.

IT 212572-06-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(fog inhibitor; thermog. black and white organic silver salt photog. material containing fog inhibitor)

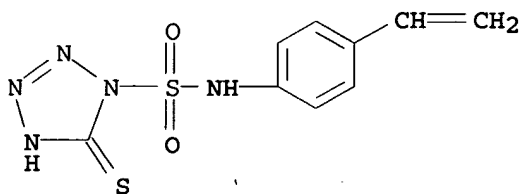
RN 212572-06-0 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with N-(4-ethenylphenyl)-2,5-dihydro-5-thioxo-1H-tetrazole-1-sulfonamide (9CI) (CA INDEX NAME)

CM 1

CRN 212572-05-9

CMF C9 H9 N5 O2 S2

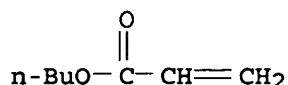


CM 2

CRN 141-32-2

CMF C7 H12 O2





IC ICM G03C001-498

ICS G03C001-498

CC 74-7 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT 33694-96-1 41018-11-5 97916-68-2 99131-26-7 110179-28-7

110608-95-2 110633-25-5 110802-27-2 212571-89-6 212571-92-1

212571-94-3 212571-97-6 212572-00-4 212572-03-7

212572-06-0 212572-09-3 212572-13-9 212572-15-1

212572-17-3 212572-20-8 212572-22-0 212572-28-6 212572-32-2

212572-35-5 212572-40-2 212572-42-4 212572-44-6

RL: TEM (Technical or engineered material use); USES (Uses)

(fog inhibitor; thermog. black and white organic silver salt photog.  
material containing fog inhibitor)

L30 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:285110 HCAPLUS

DOCUMENT NUMBER: 120:285110

TITLE: Processing solution for diffusion-transfer  
lithographic plate

INVENTOR(S): Hashimoto, Takimi; Miura, Taketoshi; Haino, Kozo

PATENT ASSIGNEE(S): Mitsubishi Paper Mills Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05309969	A	19931122	JP 1992-116209	199205 08
PRIORITY APPLN. INFO.:				199205 08

AB The solution, used after development of the Ag salt diffusion-transfer lithog. plate, contains a water soluble copolymer with average mol. weight 1000-200,000 [CH<sub>2</sub>CH(CONH<sub>2</sub>)]<sub>l</sub>[CH<sub>2</sub>CH(Z<sub>1</sub>R<sub>1</sub>)]<sub>m</sub>[CH<sub>2</sub>CH(Z<sub>2</sub>R<sub>2</sub>)]<sub>n</sub> [R<sub>1</sub> = hydrophilic substituent, R<sub>2</sub> = substituent having affinity to metals, Z<sub>1</sub>-2 = none, linkage; m = 0-20, n = 0.1-40, l = (100-m-n) mol%]. The solution gives plate with printing durability and gives printings without greasing.

IT 154924-37-5

RL: USES (Uses)

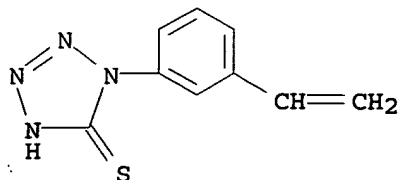
(processing solution containing, for diffusion-transfer lithog. plate)

RN 154924-37-5 HCAPLUS

CN 2-Propenamide, polymer with 1-(3-ethenylphenyl)-1,2-dihydro-5H-tetrazole-5-thione (9CI) (CA INDEX NAME)

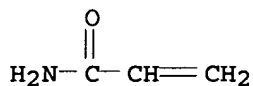
CM 1

CRN 154924-36-4  
CMF C9 H8 N4 S



CM 2

CRN 79-06-1  
CMF C3 H5 N O



IC ICM B41N003-08  
ICS G03F007-07

CC 74-6 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)

IT 25988-82-3 25988-83-4 53232-07-8 154924-31-9 154924-32-0  
154924-33-1 154924-34-2 154924-35-3 154924-37-5  
154924-39-7 154924-40-0

RL: USES (Uses)

(processing solution containing, for diffusion-transfer lithog. plate)

L30 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1989:125340 HCAPLUS

DOCUMENT NUMBER: 110:125340

TITLE: Electrophotographic lithographic printing plate  
precursor

INVENTOR(S): Kato, Eiichi; Ishii, Kazuo

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 35 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 284748	A2	19881005	EP 1988-102036	198802 11
EP 284748	A3	19900124		
EP 284748	B1	19931222		
R: DE, GB				
JP 63197964	A	19880816	JP 1987-28345	

JP 01070769 A 19890316 JP 1987-226694 198702  
12

PRIORITY APPLN. INFO.: JP 1987-28345 A 198709  
11

JP 1987-226694 A 198702  
12

JP 1987-226694 A 198709  
11

AB An electrophotog. lithog. printing plate precursor giving a printing plate having excellent printing durability comprises a conductive support with  $\geq 1$  photoconductive layer and an outermost surface layer containing  $\geq 1$  resin having  $\geq 1$  functional group capable of forming a carboxyl group upon decomposition. The surface layer can be rendered highly hydrophilic while exhibiting water resistance when subjected to oil-desensitization processing after toner image formation. Thus, a composite electrophotog. plate with a charge-generating layer containing a bisazo pigment and a charge-transporting layer containing a hydrazone was overcoated with a Et methacrylate-tert-butyldimethylsilyl methacrylate copolymer in PhMe, dried, exposed, and processed in an ELP-T automatic platemaking machine to give a plate capable of producing 10,000 prints with clear images and no fog in the nonimage areas.

IT 119360-00-8  
RL: USES (Uses)  
(electrophotog. lithog. plate precursor with surface layer containing)

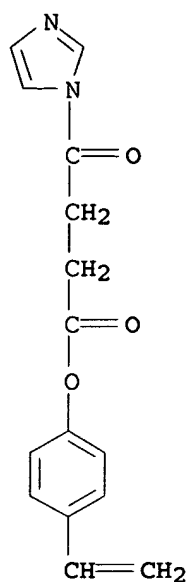
RN 119360-00-8 HCAPLUS

CN 1H-Imidazole-1-butanoic acid,  $\gamma$ -oxo-, 4-ethenylphenyl ester, polymer with phenylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

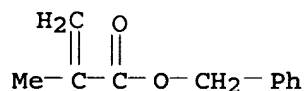
CRN 119359-99-8

CMF C15 H14 N2 O3



CM 2

CRN 2495-37-6  
CMF C11 H12 O2



IC ICM G03G013-28

CC 74-3 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)

IT 113880-92-5 119212-13-4 119212-15-6 119212-16-7 119212-18-9  
119212-20-3 119359-80-7 119359-82-9 119359-84-1 119359-85-2  
119359-87-4 119359-89-6 119359-96-5 119359-98-7  
119360-00-8 119380-12-0 119380-14-2

RL: USES (Uses)

(electrophotog. lithog. plate precursor with surface layer  
containing)

L30 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1987:626030 HCAPLUS

DOCUMENT NUMBER: 107:226030

TITLE: Thermally developable light-sensitive material

INVENTOR(S): Kohno, Junichi; Okauchi, Ken; Goto, Sohei;  
Iwagaki, Masaru; Komamura, Tawara

PATENT ASSIGNEE(S): Konishiroku Photo Industry Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 217 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

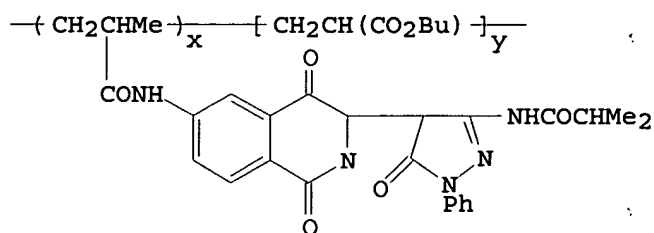
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

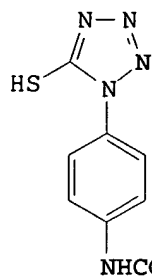
PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
EP 218385	A2	19870415	EP 1986-307083	198609 15
EP 218385	A3	19900321		
EP 218385	B1	19920729		
EP 218385	B2	19970514		
R: DE, FR, GB				
JP 62065035	A	19870324	JP 1985-205129	198509 17
JP 04077892	B	19921209		
JP 62078554	A	19870410	JP 1985-218769	198510 01
JP 04027538	B	19920512		
JP 62090647	A	19870425	JP 1985-232263	198510 17
JP 05002220	B	19930112		
JP 62121452	A	19870602	JP 1985-262177	198511 20
JP 05088818	B	19931224		
JP 62123456	A	19870604	JP 1985-263564	198511 22
JP 06001364	B	19940105		
US 4837141	A	19890606	US 1988-191781	198805 03
US 5064753	A	19911112	US 1990-576158	199008 30
PRIORITY APPLN. INFO.:			JP 1985-205129	A 198509 17
			JP 1985-218769	A 198510 01
			JP 1985-232263	A 198510 17
			JP 1985-262177	A 198511 20
			JP 1985-263564	A 198511 22
			JP 1985-215948	A 198509 28

US 1986-907670	A1	198609 15
US 1987-60390	B2	198705 07
US 1989-336216	B1	198906 15

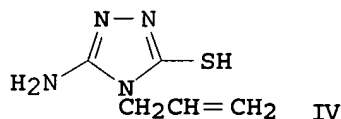
GI



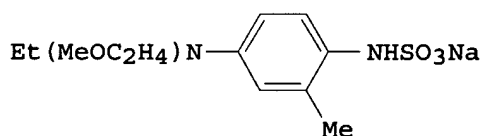
II



NHCOCMe=CH2 III



IV



V

AB A thermally developable diffusion-transfer light-sensitive image-forming material is comprised of  $\geq 1$  Ag halide light-sensitive layer and a compound having the general formula  $R[ZmR1]n$  (I; R = a residue of a development restrainer; Z = a divalent linkage; R1 = an immobilizing group that is capable of reducing the diffusibility of I or its Ag salt or complex during thermal development;  $m = 0.1$ ;  $n = 1-3$ ) as a development restrainer. The image-forming material only produces limited fog during thermal development. Thus, a diffusion-transfer light-sensitive image-forming material prepared from a Ag halide emulsion, a 5-methylbenzotriazole Ag salt dispersion in poly(N-vinylpyrrolidone), a dye-providing composition containing the dye former II, development restrainer III-Bu acrylate copolymer, 2,5-di-tert-octyl-4-hydroxyphenol, and phenylcarbamoylated gelatin,

a developer solution containing development accelerator IV, a F-containing surfactant, reducing agent V, and poly(N-vinylpyrrolidone), and other additives [polyethylene glycol, 3-methylpentane-1,3,5-triol, and taurine-tetrakis(vinylsulfonylmethyl)methane reaction products] was coated on a subbed PET support, exposed through a step wedge, superposed with a receptor paper coated with poly(vinyl chloride), and heated at 150° to give a magenta image on the receptor paper with Dmax 2.47 and Dmin 0.06 vs. 2.78 and 1.48, resp., for a control using a known restrainer.

IT 110608-97-4

RL: USES (Uses)

(diffusion-transfer photothermog. materials containing photosensitive silver halide and)

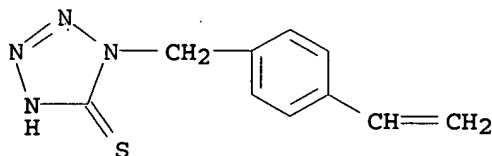
RN 110608-97-4 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with 1-[(4-ethenylphenyl)methyl]-1,2-dihydro-5H-tetrazole-5-thione (9CI) (CA INDEX NAME)

CM 1

CRN 58660-45-0

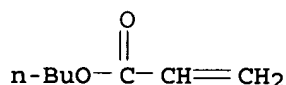
CMF C10 H10 N4 S



CM 2

CRN 141-32-2

CMF C7 H12 O2



IC ICM G03C001-02

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 3364-84-9 7341-98-2 15909-94-1 23249-95-8 38065-29-1

43023-31-0 52431-78-4 53918-03-9 58089-25-1 68994-94-5

91159-88-5 97916-68-2 110482-91-2 110608-95-2 110608-96-3

110608-97-4 110608-99-6 110633-01-7 110633-25-5

110802-22-7 110802-23-8 110802-24-9 110802-25-0 110802-26-1

110802-27-2 110802-28-3

RL: USES (Uses)

(diffusion-transfer photothermog. materials containing photosensitive silver halide and)

L30 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1987:19215 HCAPLUS

DOCUMENT NUMBER: 106:19215

TITLE: Triazolinethione-containing polymers  
 INVENTOR(S): Katritzky, Alan R.; Cato, Stephen J.; Rasmussen, Jerald K.; Krepski, Larry R.; Heilmann, Steven M.  
 PATENT ASSIGNEE(S): Minnesota Mining and Manufacturing Co., USA  
 SOURCE: Eur. Pat. Appl., 20 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 197701	A2	19861015	EP 1986-302191	19860325
EP 197701	A3	19890503		
R: BE, CH, DE, FR, GB, IT, LI				
US 4624995	A	19861125	US 1985-721317	19850409
AU 8654683	A	19861016	AU 1986-54683	19860313
AU 579453	B2	19881124		
JP 61233021	A	19861017	JP 1986-79361	19860408
US 4740568	A	19880426	US 1986-891858	19860903
PRIORITY APPLN. INFO.:			US 1985-721317	19850409

AB The title polymers are obtained by cyclodehydrating poly(acylthiosemicarbazides) at 60-150° in aqueous alkaline solution to form a polyanion of poly(triazolinethione). Acidification gives polymers which are uncrosslinked and useful as nonmigrating species in photosensitive materials. Thus, heating 4.0 g 1,6-bis(isothiocyanato)hexane and 3.88 g isophthalic dihydrazide in 100 mL DMSO at 100° for 4 h gave 7.42 g poly(acylthiosemicarbazide). Refluxing 5.0 g of this product in 1M Na<sub>2</sub>CO<sub>3</sub> for 1 h, and acidifying to pH ≤2 gave 4.2 g poly(triazolinethione) having intrinsic viscosity 0.29 dL/g.

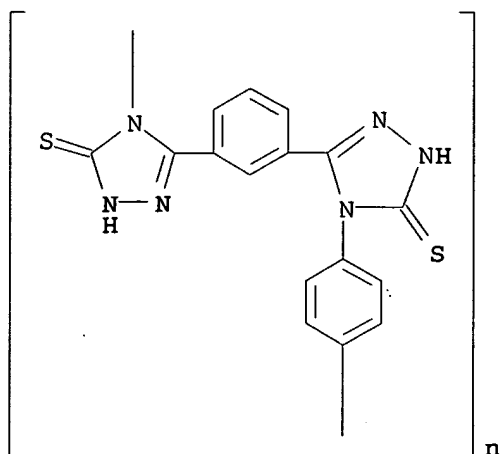
IT 106056-65-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (manufacture and cyclodehydration of)

RN 106056-65-9 HCAPLUS

CN Poly[(1,5-dihydro-5-thioxo-4H-1,2,4-triazole-4,3-diyl)-1,3-phenylene(1,5-dihydro-5-thioxo-4H-1,2,4-triazole-3,4-diyl)-1,4-phenylene] (9CI) (CA INDEX NAME)





IC ICM C08G073-08  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 74  
 IT 25067-14-5P 106056-46-6P 106056-47-7P 106056-48-8P  
 106056-49-9P 106056-50-2P 106056-51-3P 106056-52-4P  
 106056-53-5P 106056-60-4P 106056-61-5P 106056-62-6P  
 106056-63-7P 106056-64-8P 106056-65-9P 106056-66-0P  
 106056-67-1P 106056-68-2P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (manufacture and cyclodehydration of)

L30 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1979:195583 HCAPLUS  
 DOCUMENT NUMBER: 90:195583  
 TITLE: Photographic uses of poly(vinyl  
 phenylmercaptotetrazoles)  
 INVENTOR(S): Grasshoff, J. Michael; Reid, Jerome L.  
 PATENT ASSIGNEE(S): Polaroid Corp., USA  
 SOURCE: U.S., 18 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4134768	A	19790116	US 1977-783552	197704 01
PRIORITY APPLN. INFO.:			US 1976-718012	A2 197608 26

GI For diagram(s), see printed CA Issue.  
 AB A polymeric substance having the general formula I [Z = an  
 ethylenically unsatd. group which has been polymerized; Z1 = phenylene;  
 ZZ1 = vinylphenyl, acrylamidophenyl, (2-acrylamido-2-  
 methyl)propionamidophenyl, or p-formylphenyl acetal; Z2 = atoms

necessary to complete a 1,2,3,4-tetrazole ring; m = 0 or 1 when ZZ1 = vinylphenyl and m = 0 when ZZ1 = acrylamidophenyl, (2-acrylamido-2-methyl)propionamidophenyl, or p-formylphenyl acetal; n  $\geq$  100; M = an alkali metal or primary, secondary, tertiary, or quaternary ammonium] are used in conjunction with Ag halide photog. elements as interlayers to provide interimage control, as dispersants for dye image-forming materials, or as Ag scavengers. Thus, a multilayer, color, diffusion-transfer photog. film containing an interlayer of the K salt of poly[1-(p-vinylphenyl)-1H-5-mercaptotetrazole] (II) between the red-sensitive Ag(Br,I) emulsion layer and the layer containing a yellow dye-providing compound was exposed and processed in contact with an image-receiving element to give a print having better color isolation than that of a II-free control.

IT 58660-47-2 58660-48-3 58660-49-4

RL: USES (Uses)

(photog. interlayers from, for color, diffusion-transfer films for improved interimage effect)

RN 58660-47-2 HCAPLUS

CN 5H-Tetrazole-5-thione, 1-[(4-ethenylphenyl)methyl]-1,2-dihydro-, homopolymer, potassium salt (9CI) (CA INDEX NAME)

CM 1

CRN 58660-46-1

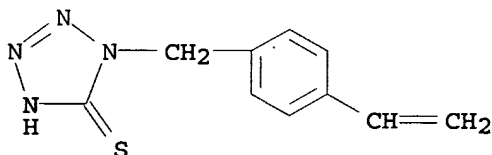
CMF (C10 H10 N4 S)x

CCI PMS

CM 2

CRN 58660-45-0

CMF C10 H10 N4 S



RN 58660-48-3 HCAPLUS

CN 5H-Tetrazole-5-thione, 1-(4-ethenylphenyl)-1,2-dihydro-, homopolymer, potassium salt (9CI) (CA INDEX NAME)

CM 1

CRN 58660-44-9

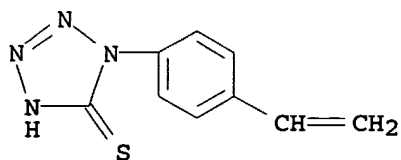
CMF (C9 H8 N4 S)x

CCI PMS

CM 2

CRN 55425-03-1

CMF C9 H8 N4 S



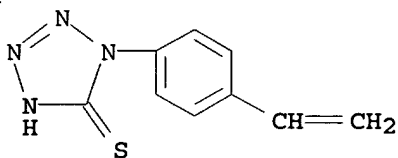
RN 58660-49-4 HCAPLUS  
 CN 5H-Tetrazole-5-thione, 1-(4-ethenylphenyl)-1,2-dihydro-,  
 homopolymer, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 58660-44-9  
 CMF (C9 H8 N4 S)x  
 CCI PMS

CM 2

CRN 55425-03-1  
 CMF C9 H8 N4 S



IC G03C001-76  
 INCL 096073000  
 CC 74-2 (Radiation Chemistry, Photochemistry, and  
 Photographic Processes)  
 IT 58660-47-2 58660-48-3 58660-49-4  
 RL: USES (Uses)  
 (photog. interlayers from, for color, diffusion-transfer films  
 for improved interimage effect)

L30 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1979:64406 HCAPLUS  
 DOCUMENT NUMBER: 90:64406  
 TITLE: Photographic uses of  
 polyvinylphenylmercaptotetrazole-multivalent  
 metal cation combinations  
 INVENTOR(S): Taylor, Lloyd D.  
 PATENT ASSIGNEE(S): Polaroid Corp., USA  
 SOURCE: U.S., 13 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 4102685

A

19780725

US 1976-718043

197608  
26

PRIORITY APPLN. INFO.:

US 1976-718043

A

197608  
26

AB Diffusion-transfer photog. materials are described which consist of a support carrying  $\geq 1$  photosensitive Ag halide emulsion layer, a dye image-forming material, and a layer containing polymeric derivs. of tetrazole-5-thiols. The materials also contain a multivalent cation which diffuses to the layer containing the polymeric derivs. of tetrazole-5-thiols to increase the permeability of this layer to the dye image-forming material. Thus, a photosensitive element with interlayers containing poly[1-(p-vinylphenyl)-1,2,3,4-tetrazole-5-thiol] K salt and emulsion layers containing  $\text{Ca}(\text{NO}_3)_2$  was exposed and developed to show good interimage control and a higher red, green, and blue  $D_{\text{max}}$  than a control with interlayers containing a Bu acrylate-diacetone acrylamide-methacrylic acid-styrene polymer.

IT 58660-48-3

RL: USES (Uses)

(color photog. films containing calcium nitrate and, for improved interimage control and increased maximum d.)

RN 58660-48-3 HCAPLUS

CN 5H-Tetrazole-5-thione, 1-(4-ethenylphenyl)-1,2-dihydro-, homopolymer, potassium salt (9CI) (CA INDEX NAME)

CM 1

CRN 58660-44-9

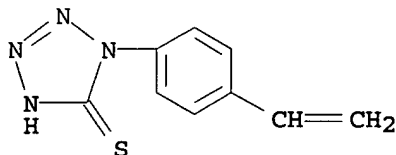
CMF (C9 H8 N4 S)x

CCI PMS

CM 2

CRN 55425-03-1

CMF C9 H8 N4 S



IC G03C001-40

INCL 096073000

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT 58660-48-3

RL: USES (Uses)

(color photog. films containing calcium nitrate and, for improved interimage control and increased maximum d.)

L30 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1978:180243 HCAPLUS

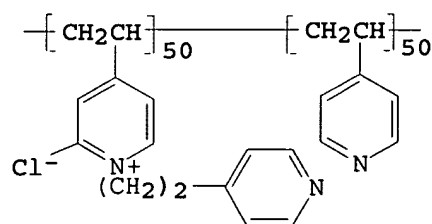
DOCUMENT NUMBER: 88:180243

TITLE: Color diffusion transfer material

INVENTOR(S): Sato, Yuzuru; Asano, Masao; Ishihara, Masao;  
 Terada, Sadatugu  
 PATENT ASSIGNEE(S): Konishiroku Photo Industry Co., Ltd., Japan  
 SOURCE: Ger. Offen., 70 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

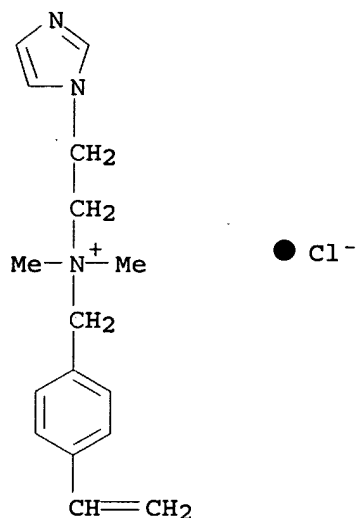
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2728557	A1	19771229	DE 1977-2728557	197706 24
JP 53000125	A	19780105	JP 1976-74689	197606 24
JP 59014739	B	19840405		197706 22
US 4154615	A	19790515	US 1977-808908	197706 22
CA 1104859	A1	19810714	CA 1977-281619	197706 28
PRIORITY APPLN. INFO.:			JP 1976-74689	A 197606 24

GI



AB A color photog. diffusion-transfer material is described that is composed of a light-sensitive Ag halide recording material and an image-receptor material containing as mordant a polymer from CH<sub>2</sub>:CR<sub>1</sub>ZNR<sub>2</sub>R<sub>3</sub> or CH<sub>2</sub>:CR<sub>1</sub>ZR<sub>4</sub> (R<sub>1</sub> = H or Me; R<sub>2</sub>, R<sub>3</sub> = alkyl, Ph, aralkyl, or together with the N atom form a 5- or 6-membered heterocyclic ring, R<sub>4</sub> = a 5- or 6-membered heterocyclic ring) or a quaternary salt thereof. Thus, a color diffusion-transfer material was exposed and then contacted with an image-receptor sheet composed of a transparent poly(ethylene terephthalate) support coated with 100 g of an aqueous solution containing 3 wt % of a mordant having the structure I, 6 wt % poly(vinyl alc.), and polyethylene glycol nonylphenyl ether 0.1 g to give a 5 μ (dry) thick layer. The resulting color image had a yellow, magenta, and cyan D<sub>max</sub> of 1.46, 1.58, and 1.73, resp., vs. 1.18, 1.28, and 1.25, resp. for a control

containing poly(4-vinylpyridine).  
 IT 66348-12-7  
 RL: USES (Uses)  
 (mordant, for color photog. films)  
 RN 66348-12-7 HCAPLUS  
 CN 1H-Imidazole-1-ethanaminium, N-[(4-ethenylphenyl)methyl]-N,N-  
 dimethyl-, chloride, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 66348-11-6  
 CMF C16 H22 N3 . Cl



IC G03C005-54  
 CC 74-2 (Radiation Chemistry, Photochemistry, and  
 Photographic Processes)  
 IT 66348-05-8 66348-06-9 66348-08-1 66348-10-5 66348-12-7  
 66456-20-0 66456-22-2  
 RL: USES (Uses)  
 (mordant, for color photog. films)

L30 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1978:81815 HCAPLUS

DOCUMENT NUMBER: 88:81815

TITLE: Diffusion transfer elements comprising  
 color-providing compounds capable of cleavage  
 upon reaction with silver ions and silver ion  
 barrier layers

INVENTOR(S): Ciecuch, Ronald F. W.; Luhowy, Roberta R.;  
 Meneghini, Frank A.; Rogers, Howard G.

PATENT ASSIGNEE(S): Polaroid Corp., USA

SOURCE: U.S., 15 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4060417	A	19771129	US 1975-574296	19750505
US 3719489	A	19730306	US 1971-155123	19710621
CA 1055486	A2	19790529	CA 1976-254600	19760611
PRIORITY APPLN. INFO.:			US 1971-155123	A3 19710617
			US 1972-317168	A2 19721221
			US 1974-465694	A2 19740430
			CA 1972-145112	A3 19720619

AB The use of a Ag ion scavenger layer between adjacent Ag halide emulsion layers enhances color separation in multicolor photog. images prepared by processes which utilize the imagewise distribution of Ag ions and/or soluble Ag complex made available during development to liberate a corresponding imagewise distribution of dye or dye intermediate from a color-providing compound. Thus, a transparent poly(ethylene terephthalate) support was coated with a layer containing a cyan color-providing compound and gelatin, a red-sensitive gelatin-Ag(I,Br) emulsion layer, a layer containing the K salt of poly[1-(p-vinylphenyl)-1,2,3,4-tetrazole-5-thiol] (I) at .apprx.100 mg/ft<sup>2</sup>, a layer containing a yellow color-providing compound, Padding Yellow GL (filter dye), and gelatin, a blue-sensitive gelatin-Ag(Br,I) emulsion layer, and a gelatin layer. This material was then exposed to red and blue light and processed with an image-receiving element to give an integral neg.-pos. reflection print exhibiting better color isolation than that of a I-free control.

IT 58660-48-3

RL: USES (Uses)

(color diffusion-transfer photog. films containing scavenger layer of, for improved color separation)

RN 58660-48-3 HCAPLUS

CN 5H-Tetrazole-5-thione, 1-(4-ethenylphenyl)-1,2-dihydro-, homopolymer, potassium salt (9CI) (CA INDEX NAME)

CM 1

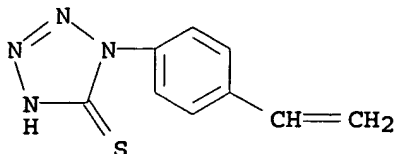
CRN 58660-44-9

CMF (C9 H8 N4 S)x

CCI PMS

CM 2

CRN 55425-03-1  
CMF C9 H8 N4 S



IC G03C007-00  
INCL 096003000  
CC 74-2 (Radiation Chemistry, Photochemistry, and  
Photographic Processes)  
IT 58660-48-3  
RL: USES (Uses)  
(color diffusion-transfer photog. films containing scavenger layer  
of, for improved color separation)

L30 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1976:122567 HCAPLUS  
DOCUMENT NUMBER: 84:122567  
TITLE: Novel polymeric derivatives of  
tetrazole-5-thiols and their metal and ammonium  
salts  
INVENTOR(S): Grasshoff, J. Michael; Reid, Jerome L.  
PATENT ASSIGNEE(S): Polaroid Corp., USA  
SOURCE: U.S., 6 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

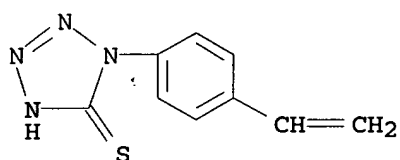
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 3936401	A	19760203	US 1974-520983	197411 05
				197401 02

PRIORITY APPLN. INFO.: US 1974-429900 A2

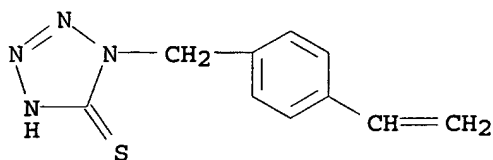
GI For diagram(s), see printed CA Issue.  
AB 1,2,3,4-Tetrazole-5-thiol derivs. of styrene are prepared and the  
corresponding polymers used as photog. gelatin thickeners. Thus,  
p-CH<sub>2</sub>:CHC<sub>6</sub>H<sub>4</sub>NCS [1520-20-3] was prepared (71%) from p-CH<sub>2</sub>:CHC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>  
[1520-21-4] and thiocarbonyl chloride [463-71-8] and treated (32.2  
g) with 14.3 g Na azide [26628-22-8] to give 70%  
1-(4-vinylphenyl)-1,2,3,4-tetrazole-5-thiol (I, R = H) (II)  
[55425-03-1]. II was acetylated to give a mixture of I (R = Ac)  
[58660-50-7] and 1-(4-vinylphenyl)-4-acetyl-2-tetrazoline-5-thione  
[58660-51-8]. The mixture was heated with azobisisobutyronitrile to  
give the copolymer [58660-52-9] which was saponified,  
followed by acidification, to give II homopolymer [  
58660-44-9].



IT 58660-44-9P 58660-47-2P 58660-49-4P  
58660-52-9DP, 5H-Tetrazole-5-thione, 1-acetyl-4-(4-ethenylphenyl)-1,4-dihydro-, polymer with S-[1-(4-ethenylphenyl)-1H-tetrazol-5-yl] ethanethioate, hydrolyzed  
RL: PREP (Preparation)  
(preparation of)  
RN 58660-44-9 HCAPLUS  
CN 5H-Tetrazole-5-thione, 1-(4-ethenylphenyl)-1,2-dihydro-, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 55425-03-1  
CMF C9 H8 N4 S

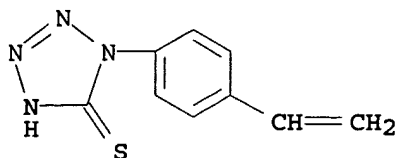


RN 58660-47-2 HCAPLUS  
CN 5H-Tetrazole-5-thione, 1-[(4-ethenylphenyl)methyl]-1,2-dihydro-, homopolymer, potassium salt (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 58660-46-1  
CMF (C<sub>10</sub> H<sub>10</sub> N<sub>4</sub> S)<sub>x</sub>  
CCI PMS  
  
CM 2  
  
CRN 58660-45-0  
CMF C<sub>10</sub> H<sub>10</sub> N<sub>4</sub> S



RN 58660-49-4 HCAPLUS  
CN 5H-Tetrazole-5-thione, 1-(4-ethenylphenyl)-1,2-dihydro-, homopolymer, sodium salt (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 58660-44-9  
CMF (C<sub>9</sub> H<sub>8</sub> N<sub>4</sub> S)<sub>x</sub>  
CCI PMS  
  
CM 2

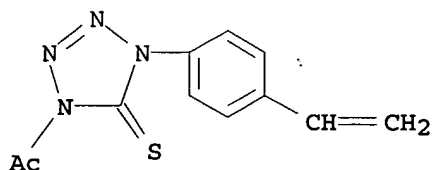
CRN 55425-03-1  
CMF C9 H8 N4 S



RN 58660-52-9 HCAPLUS  
CN Ethanethioic acid, S-[1-(4-ethenylphenyl)-1H-tetrazol-5-yl] ester,  
polymer with 1-acetyl-4-(4-ethenylphenyl)-1,4-dihydro-5H-tetrazole-5-  
thione (9CI) (CA INDEX NAME)

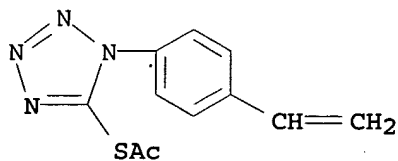
CM 1

CRN 58660-51-8  
CMF C11 H10 N4 O S



CM 2

CRN 58660-50-7  
CMF C11 H10 N4 O S



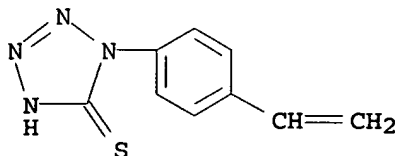
IT 58660-48-3  
RL: USES (Uses)  
(thickening agents, for photographic emulsions)  
RN 58660-48-3 HCAPLUS  
CN 5H-Tetrazole-5-thione, 1-(4-ethenylphenyl)-1,2-dihydro-,  
homopolymer, potassium salt (9CI) (CA INDEX NAME)

CM 1

CRN 58660-44-9  
CMF (C9 H8 N4 S)x  
CCI PMS

CM 2

CRN 55425-03-1  
CMF C9 H8 N4 S



IC C08L

INCL 260008000

CC 35-3 (Synthetic High Polymers)

Section cross-reference(s): 74, 28, 25

IT 58660-44-9P 58660-45-0P 58660-47-2P

58660-49-4P 58660-50-7P 58660-51-8P 58660-52-9DP

, 5H-Tetrazole-5-thione; 1-acetyl-4-(4-ethenylphenyl)-1,4-dihydro-, polymer with S-[1-(4-ethenylphenyl)-1H-tetrazol-5-yl] ethanethioate, hydrolyzed

RL: PREP (Preparation)  
(preparation of)

IT 58660-48-3

RL: USES (Uses)  
(thickening agents, for photographic emulsions)

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